FEDERAL ITEM IDENTIFICATION GUIDE

HOSE, PIPE, AND TUBING

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Commander

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BY ORDER OF THE DIRECTOR

/s/

Commander

Defense Logistics Information Service

Contents

GENERAL INFORMATION

1. Purpose and Scope

This Federal Item Identification Guide (FIIG) is a self-contained document for the collection, coding, transmittal, and retrieval of item characteristics and related supply management data for an item of supply for logistical use. This FIIG is to be used to describe items of supply identified by the index of approved item names appearing in this section.

2. Contents

This FIIG is comprised of the following:

Index of Approved Item Names Covered by this FIIG
Applicability Key Index
Section I - Item Characteristics Data Requirements
Section III - New text that should be here.
Appendix A - Reply Tables
Appendix B - Reference Drawing Groups (as applicable)
Appendix C - Technical Data Tables (as applicable)

a. Index of Approved Item Names Covered by this FIIG:

The index lists the approved item names with definitions and item name codes as they appear in Cataloging Handbook H6, applicable to this FIIG. In addition, each name entry is assigned an applicability key for use in relating the characteristics requirements in Section I to the specific item name.

b. Applicability Key Index:

The purpose of this index is to provide the user with a ready reference for determining the specific requirements which are applicable to a given approved item name. This index lists all requirements in sequence as they appear in the FIIG. The applicability of a Master Requirement Coded requirement is indicated by the column headed by the specific item name applicability key as follows:

(1) The letter "X" indicates the requirement must be answered for a full descriptive item.

(2) The letters "AR" indicate the requirement is to be answered as required by (1) instructional notes within the FIIG; (2) when the reply is predicated on replies to a related main requirement; or (3) when an asterisk (*) is used in conjunction with the applicability key column in Section I.

(3) A blank in the column indicates the requirement is not applicable to the specific item name.

c. Section I - Item Characteristics Data Requirements:

This section contains the physical and performance characteristics requirements needed to describe and identify an item of supply. These characteristics differentiate one item from all other items of supply and are to be used to meet the needs of all supported functions. This section is arranged in columns. Identification of each column and instructions pertinent thereto are as follows:

(1) Applicability Key:

The first column shows the applicability key(s) for each requirement. It indicates whether the requirement need be satisfied for the item being identified. "ALL" indicates that the requirement must be answered for all items covered by the FIIG. One or more alphabetic character(s) or group of one or more alphabetic characters indicates a response is required when describing items with an approved item name or names represented by the key(s). An asterisk (*) used in conjunction with any applicability key indicates that the characteristic stated in the requirement may not be applicable to all items covered by the FIIG.

(2) Master Requirement Codes (MRC):

A four-position code which is assigned to a FIIG requirement for identification of the requirement, cross-referencing requirements in the various sections and appendices of the FIIG, and for mechanized processing and retrieval of FIIG generated data. Absence of a MRC for a requirement indicates a lead-in to requirements with individual MRCs in Appendix B.

(a) The coding technique for providing MULTIPLE/OPTIONAL responses will not be used for a Section I requirement assigned Mode Code A or L that leads to Appendix B sketches with dimensional requirements.

(b) Identified Secondary Address Coding:

This technique is for extending the Master Requirement Code so that a unique address is provided for each application of the requirement in relation to the item and is authorized only as instructed within the requirement. Responses coded through this technique will always consist of the following: (1) Master Requirement Codes, (2) indicator code (a single numeric character determined by the number of positions contained), (3) identified secondary address code (1 to 3-digit alphabetic codes determined by the number of predicted replies), (4) the mode code, (5) the reply code and/or clear text response, and (6) end with a record separator (*). Steps (1) through (6) are repeated for each application of the requirement.

(c) AND/OR coding:

A technique for extending the Master Requirement Code to provide a distinctive address for multiple responses to the same requirement. Responses coded through this technique will always consist of (1) Master Requirement Code, (2) mode code, (3) the response or reply code (as instructed by the requirement), (4) a single dollar sign ($) for an OR condition, or a double dollar sign ($$) for an AND condition, (5) the mode code, (6) the response or reply code

(followed by conditions (4) through (6) for each of the multiple responses) and (7) end with a record separator (*). NOTE: Apply this technique only when instructed by the requirement sample reply (e.g.).

(3) Mode Code:

A one-position alphabetic code that specifies the manner in which a response will be prepared. Each requirement assigned a MRC is also assigned a mode code. Sample replies follow each FIIG requirement displaying the proper construction of a response for the assigned mode code. The response to a requirement will always be prepared in accordance with the assigned mode code and sample reply except in the following instances:

(a) Use of E Mode Code replies is not authorized. If a reply needed to describe an item is not listed in the applicable table, contact the FIIG Initiator.

(b) Mode Code K may not be used for any requirement unless instructed by the requirement instructions.

(4) Requirement:

This portion includes the characteristics data elements and data use identifiers required to identify and differentiate one item of supply from another, narrative definitions, and explanations as to use and method of expression. Instructions for coding and preparing replies are also provided.

(5) Reply Code:

A code that represents an established authorized reply to a requirement.

d. Section III - Supplementary Technical and Supply Management Data:

This section includes those characteristics requirements necessary to support specific logistics functions other than National Stock Number assignment.

e. Appendix A - Reply Tables:

Tables of authorized replies to requirements and reply codes when the tables are too lengthy for inclusion in Section I/III, when applicable.

f. Appendix B - Reference Drawings:

This appendix contains representative illustrations which portray specific variations of one or more generic characteristics. If reference drawings contain requirements pages to be used in conjunction with illustrations for dimensioning purposes, the requirements pages will contain Master Requirement Codes, mode codes, and a statement of the requirement. A response to requirements on a requirements page is necessary only for those Master Requirement Codes applicable to the illustration selected.

g. Appendix C - Technical Data Tables:

This appendix contains conversion charts and similar data pertinent to the requirements in Section I/III, when applicable.

3. Enter administrative MRC CLQL immediately following the last FIIG requirement reply, as instructed below:

MRC	Mode Code	Requirement	Example
CLQL	G	COLLOQUIAL NAME (common usage name by which an item is known)	CLQLGWOVEN WIRE CLOTH*

4. Special Instructions and Indicator Definitions

a. Measurements:

Unless otherwise indicated within a requirement example, enter all measurements in decimal form, carried to the nearest three decimal places, with a minimum of one digit preceding the decimal. For SI (metric), enter all measurements with a minimum of one digit before and after the decimal. For fraction to decimal conversion, see Appendix C.

b. Indicators:

A cross hatch (#) following an AIN, MRC, Reply Code or Drawing Number indicates for "ALL EXCEPT USA" use only.

5. Indexes

a. Index of Data Requirements

This index is arranged in alphabetic sequence by Master Requirement Code, cross-referenced to the applicable data requirement and page number(s).

b. Index of Approved Item Names

This index is arranged in alphabetic sequence referenced to Applicability Key.

c. Applicability Key Index

This index is arranged in Applicability Key Sequence.

6. Maintenance

Requests for revisions and other changes will be directed to:

MRC Index

INDEX OF APPROVED ITEM NAMES COVERED BY THIS FIIG

Approved Item Name	INC	App Key
CONNECTOR BAND, PIPE, CULVERT	33748	BB

A metal band designed to make each joint as strong as the rest of the pipe. It laps equally around adjoining ends of pipe sections with interlocking corrugations or dimpled projections. It may be furnished with gaskets where maximum watertightness is required.

PIPE, AIR CONDITIONING-HEATING	15681	AA

A shaped product of sheet metal; round, rectangular, or square in cross-sectional shape. It is uniform throughout its length. Used to conduct air or gas fumes from one area to another.

PIPE, BENT, FIRE EXTINGUISHING SYSTEM	61612	AA

A bent hollow item, welded or seamless, which has been perforated at intervals along the length for use in fire extinguishing systems. It has a round cross section with a continuous periphery. It may include end fitting(s) but not more than one on each end. Excludes TUBE, BENT, FIRE EXTINGUISHING SYSTEM.

PIPE, CULVERT, METALLIC	33747	BA

A length of corrugated pipe with full circle, elongated, arch or arches of circular arc cross-sectional shape. It includes corrugated preformed nestable half shell sections. It is designed for underdrains, conduits, and the like.

PIPE, PLASTIC	21439	CA

A tubular product formed from plastic material. The nominal pipe size and outside diameter conform to recognized pipe standards, iron pipe size designators or the dimensions conform to Standard Thermoplastic Pipe Dimensions Ratio (SDR) Tables. It may have threaded ends or the ends may be capable of being formed by heating. For items not conforming to these dimensioning criteria, see TUBING, NONMETALLIC.

TUBE AND FITTINGS, METALLIC	36987	DA

An item consisting of a metal tube, straight or prebent, with permanently attached fittings (brazed or welded) on one or both ends. It is primarily designed to convey fluids, gases, and/or semisolids. For items with detachable end fittings, see TUBE ASSEMBLY, METAL.

TUBE ASSEMBLY, FIRE EXTINGUISHING SYSTEM	61614	DA

A length of tubing, straight or prebent to a predetermined angle, with added components that form an end connection on one or both ends, and has been perforated at intervals along the length, and/or one end has been capped with sheet metal and then perforated. For use in aircraft, automotive equipment, or building fire extinguishing systems. Excludes TUBE, ASSEMBLY, FIRE EXTINGUISHING SYSTEM, BRANCHED.

Approved Item Name	INC	App Key
TUBE ASSEMBLY, METAL	21989	DA

A length of tubing, straight, or prebent to a predetermined angle, with added component(s) that forms an end connection on one or both ends. For flexible tube assemblies, see HOSE ASSEMBLY (as modified). For items having perforations in the tubing or attachments, see TUBE ASSEMBLY, FIRE EXTINGUISHING SYSTEM. Excludes items having integral preformed or plain ends, TUBE, BENT (as modified), and items which are branched or forked.

APPLICABILITY KEY INDEX

	AA
NAME	X
MATL	X
SURF	X
ARQS	X
SHPE	X
AZGK	AR
ADWD	AR
ADWH	AR
ABRY	AR
AAJX	AR
CBBL	AR
FEAT	AR
TEST	AR
SPCL	AR
ZZZK	AR
ZZZT	AR
ZZZW	AR
ZZZX	AR
ZZZY	AR
CRTL	AR
PRPY	AR
ELRN	AR
NHCF	AR
ELCD	AR
AFJK	AR
SUPP	AR
ZZZP	AR
ZZZV	AR
AGAV	AR
CXCY	AR

	BA	BB
NAME	X	X
MATL	X	X
ABPX	X	X
SHPE	X	X
BYMZ	AR	AR
ADNU	AR	AR
CSQK	AR	AR
ABQN	AR	AR
ABMZ	AR	AR
BFJD		X
BKJN	X	X
ADZQ	AR	AR
ADZR	AR	AR
CTJD	AR	AR
BZRG	X	
CBBL	AR	AR
FEAT	AR	AR
TEST	AR	AR
SPCL	AR	AR
ZZZK	AR	AR
ZZZT	AR	AR
ZZZW	AR	AR
ZZZX	AR	AR
ZZZY	AR	AR
CRTL	AR	AR
PRPY	AR	AR
ELRN	AR	AR
NHCF	AR	AR
ELCD	AR	AR
AFJK	AR	AR
SUPP	AR	AR
ZZZP	AR	AR
ZZZV	AR	AR
AGAV	AR	AR
CXCY	AR	AR

	CA
NAME	X
MATL	X
BZRJ	AR
BZRK	AR
AAGN	AR
AAGT	AR
AARX	AR
ABKV	AR
ABRY	AR
AJFX	X
AAVZ	AR
ABGF	AR
AHTC	AR
BCCH	AR
BCTC	AR
BGNS	AR
BZRL	AR
BZRM	AR
BZRN	AR
BZRQ	AR
ACED	AR
THSD	AR
CQJX	AR
CQQR	AR
CTTC	AR
AAJF	AR
BPNW	AR
ADKZ	AR
BJDW	AR
HUES	X
CBBL	AR
FEAT	AR
TEST	AR
SPCL	AR
ZZZK	AR
ZZZT	AR
ZZZW	AR
ZZZX	AR
ZZZY	AR
CRTL	AR
PRPY	AR
ELRN	AR
NHCF	AR
ELCD	AR
AFJK	AR
SUPP	AR
ZZZP	AR
ZZZV	AR
AGAV	AR
CXCY	AR

	DA
NAME	X
AHSA	X
BBYQ	X
AAGT	X
AJFX	X
AWPS	AR
AFQW	AR
MATL	AR
THSD	AR
CQJX	AR
CMLP	AR
CQQR	AR
CTTC	AR
AAJD	AR
AAJE	AR
AAJF	AR
AJFY	AR
AJFZ	AR
AECS	AR
AHNX	AR
ABKG	AR
BZRS	AR
ARJD	X
ABHP	AR
CBBL	AR
FEAT	AR
TEST	AR
SPCL	AR
ZZZK	AR
ZZZT	AR
ZZZW	AR
ZZZX	AR
ZZZY	AR
CRTL	AR
PRPY	AR
ELRN	AR
NHCF	AR
ELCD	AR
AFJK	AR
SUPP	AR
ZZZP	AR
ZZZV	AR
AGAV	AR
CXCY	AR

Body

SECTION: A

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME
	Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.		
	Reply Instructions: Enter the applicable Item Name Code appearing in the Approved Item Name Index. (e.g., NAMED15681*)		
ALL			
	MATL	D	MATERIAL
	Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.		
	Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDPC0000$$DSN0000*; MATLDPC0000$DSN0000*)		
ALL			
	SURF	D	SURFACE TREATMENT
	Definition: CONSISTS OF PLATING, DIP, AND/OR COATING THAT CANNOT BE WIPED OFF. PLATING AND/OR COATING IS ANY CHEMICAL METALLIC ADDITIVE, ELECTROCHEMICAL, OR MILD MECHANICAL PROCESS WHICH PROTECTS A SURFACE.		
	Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 2. (e.g., SURFDGB0000*; SURFDCR0000$DCU0000*)		
ALL			
	ARQS	D	CONSTRUCTION
	Definition: THE STRUCTURAL CHARACTERISTIC OF THE ITEM.		
	Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., ARQSDACB*; ARQSDACB$DACC*)		

APP Key	MRC	Mode Code	Requirements

REPLY CODE	REPLY (AL59)
ACB	DOUBLE
ACC	SINGLE

ALL

SHPE D SHAPE

Definition: THE PHYSICAL CONFIGURATION OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., SHPEDAPL*; SHPEDAPL$DASL*)

REPLY CODE	REPLY (AD07)
ALC	OVAL
AND	RECTANGULAR
APL	ROUND
ASL	SQUARE

NOTE FOR MRCS AZGK, ADWD, ADWH, ABRY, AND AAJX: IF REPLY CODE ALC OR AND IS ENTERED FOR MRC SHPE, REPLY TO MRCS ADWD, ADWH, ABRY, AND AAJX. IF REPLY CODE APL IS ENTERED FOR MRC SHPE, REPLY TO MRCS AZGK, ABRY, AND AAJX. IF REPLY CODE ASL IS ENTERED FOR MRC SHPE, REPLY TO MRCS ADWH, ABRY, AND AAJX.

ALL* (See Note Above)

AZGK J CROSS-SECTIONAL DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A CROSS SECTION, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AZGKJAA3.000*; AZGKJLA80.0*; AZGKJAB2.800$$JAC3.400*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

APP Key	MRC	Mode Code	Requirements

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC AZGK)

ADWD J CROSS-SECTIONAL LENGTH

Definition: A MEASUREMENT OF THE LONGEST DIMENSION OF THE CROSS SECTION, IN DISTINCTION FROM WIDTH.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ADWDJAA8.000*; ADWDJLA200.0*; ADWDJAB7.500$$JAC8.500*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC AZGK)

ADWH J CROSS-SECTIONAL WIDTH

Definition: A MEASUREMENT OF THE CROSS SECTION TAKEN AT RIGHT ANGLES TO THE LENGTH, IN DISTINCTION FROM THICKNESS.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ADWHJAA3.500*; ADWHJLA80.0*; ADWHJAB3.000$$JAC4.000*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

APP Key	MRC	Mode Code	Requirements

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC AZGK)

ABRY J LENGTH

Definition: A MEASUREMENT OF THE LONGEST DIMENSION OF ANY OBJECT, IN DISTINCTION FROM WIDTH.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABRYJAA0.250*; ABRYJLA6.5*; ABRYJAB0.234$$JAC0.265*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
M	METERS
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC AZGK)

AAJX J MATERIAL THICKNESS

Definition: A MEASUREMENT OF THE SMALLEST DIMENSION OF THE MATERIAL STOCK FOR STAMPED OR FORMED ITEMS, IN DISTINCTION FROM LENGTH OR WIDTH.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., AAJXJA0.0239*; AAJXJL0.05*)

For items indicating gage, see Appendix C, Table 1 for conversion to the equivalent thickness in inches.

REPLY CODE	REPLY (AA05)

FIIG T
Section Parts

APP Key	MRC	Mode Code	Requirements
		A	INCHES
		L	MILLIMETERS

SECTION: B

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code appearing in the Approved Item Name Index. (e.g., NAMED33747*)

ALL			
	MATL	D	MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDST0000*; MATLDFE0000$DST0000*)

ALL			
	ABPX	J	MATERIAL THICKNESS

Definition: A MEASUREMENT OF THE SMALLEST DIMENSION OF THE MATERIAL, IN DISTINCTION FROM LENGTH OR WIDTH.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABPXJAA0.0747*; ABPXJLA0.2*; ABPXJAB0.0743$$JAC0.0750*)

For items indicating gage, see Appendix C, Table 1 for conversion to the equivalent thickness to inches.

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

APP Key	MRC	Mode Code	Requirements

ALL

SHPE D SHAPE

Definition: THE PHYSICAL CONFIGURATION OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., SHPEDBGD*)

REPLY CODE	REPLY (AD07)
BJK	ARCH
BJL	ARCHES OF CIRCULAR ARC
BGD	FULL ROUND
AZY	HALF ROUND
ALC	OVAL (ELONGATED)

NOTE FOR MRCS BYMZ, ADNU, CSQK, ABQN AND ABMZ: IF REPLY CODE BJL OR BJK IS ENTERED FOR MRC SHPE, REPLY TO MRCS BYMZ, ADNU, AND CSQK. IF REPLY CODE AZY IS ENTERED FOR MRC SHPE, REPLY TO MRC CSQK. IF REPLY CODE BGD IS ENTERED FOR MRC SHPE, REPLY TO MRC ABMZ. IF REPLY CODE ALC IS ENTERED FOR MRC SHPE, REPLY TO MRCS CSQK AND ABQN.

ALL* (See Note Above)

BYMZ J ARCH RADIUS

Definition: A MEASUREMENT OF A STRAIGHT LINE EXTENDING FROM THE CENTERLINE TO THE ARCH END.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BYMZJAA17.000*; BYMZJLA27.9*; BYMZJAB39.800$$JAC40.200*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM

APP Key	MRC	Mode Code	Requirements
		C	MAXIMUM

ALL* (See Note Preceding MRC BYMZ)

ADNU J CORNER RADIUS

Definition: A MEASUREMENT OF A STRAIGHT LINE FROM THE MIDPOINT OF A ROUNDED CORNER TO ITS PERIPHERY.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ADNUJAA3.000*; ADNUJLA76.2*; ADNUJAB2.993$$JAC3.107*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC BYMZ)

CSQK J SPAN WIDTH

Definition: A LINEAR MEASUREMENT OF THE DISTANCE FROM ONE POINT TO THE OPPOSITE POINT OF THE SPAN.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., CSQKJAA48.000*; CSQKJLA109.2*; CSQKJAB48.000$$JAC50.000*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM

APP Key	MRC	Mode Code	Requirements
		C	MAXIMUM

ALL* (See Note Preceding MRC BYMZ)

ABQN J OVAL END RADIUS

Definition: A MEASUREMENT OF A STRAIGHT LINE EXTENDING FROM THE CENTER OF A CIRCLE TO THE OVAL END.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABQNJAA15.000*; ABQNJLA38.1*; ABQNJAB22.000$$JAC30.000*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC BYMZ)

ABMZ J DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A CIRCULAR FIGURE OR BODY, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABMZJAA18.000*; ABMZJLA45.7*; ABMZJAB18.000$$JAC18.500*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL

APP Key	MRC	Mode Code	Requirements
		B	MINIMUM
		C	MAXIMUM

BB

BFJD J LAPPING SURFACE WIDTH

Definition: A MEASUREMENT TAKEN AT RIGHT ANGLES TO THE LENGTH OF A LAPPING SURFACE, IN DISTINCTION FROM THICKNESS.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BFJDJAA12.000*; BFJDJLA30.4*; BFJDJAB7.000$$JAC10.000*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

BKJN D PROJECTION TYPE

Definition: INDICATES THE TYPE OF PROJECTION PROVIDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BKJNDFLE*)

REPLY CODE	REPLY (AK54)
FLE	ANNULAR CORRUGATIONS
FLF	DIMPLED
FLG	HELICAL CORRUGATIONS

NOTE FOR MRCS ADZQ, ADZR AND CTJD: IF REPLY CODE FLE OR FLG IS SELECTED FOR MRC BKJN, REPLY TO MRCS ADZQ AND ADZR. IF REPLY CODE FLF IS SELECTED FOR MRC BKJN, REPLY TO MRC CTJD.

APP Key	MRC	Mode Code	Requirements

ALL* (See Note Above)

ADZQ J NOMINAL CENTER TO CENTER DISTANCE BETWEEN CORRUGATIONS

Definition: THE DISTANCE FROM THE CREST OF ONE CORRUGATION TO THE CREST OF AN ADJACENT CORRUGATION.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., ADZQJA3.500*; ADZQJL80.0*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

ALL* (See Note Preceding MRC ADZQ)

ADZR J NOMINAL CORRUGATION DEPTH

Definition: THE VERTICAL DISTANCE BETWEEN THE PLANE OF THE CREST AND THE BOTTOM OF THE VALLEY.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., ADZRJA3.500*; ADZRJL80.0*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

ALL* (See Note Preceding MRC ADZQ)

CTJD A DIMPLED PROJECTION ROW QUANTITY

Definition: THE NUMBER OF ROWS OF DIMPLED PROJECTIONS ON THE ITEM.

Reply Instructions: Enter the numeric value. (e.g., CTJDA8*)

BA

BZRG D LONGITUDINAL JOINT FASTENING METHOD

Definition: THE MEANS USED FOR FASTENING THE LONGITUDINAL JOINT.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BZRGDBGY*; BZRGDBGW$$DBGY*; BZRGDBGT$DBGW*)

REPLY CODE	REPLY (AM39)
AMG	CRIMP
BGT	FLANGE BOLTED
BGW	FLANGE RIVETED
BGX	LAP BOLTED
BGY	LAP RIVETED
BGZ	LAP STITCHED
BHA	NOTCH LAP STITCHED

SECTION: C

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME
	Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.		
	Reply Instructions: Enter the applicable Item Name Code appearing in the Approved Item Name Index. (e.g., NAMED21439*)		
ALL			
	MATL	D	MATERIAL
	Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.		
	Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., MATLDPC0000*; MATLDPC0000$$DSN0000*; MATLDPC0000$DSN0000*)		
ALL*			
	BZRJ	G	INGESTED LIQUID USE APPROVING AGENCY
	Definition: THE NAME OF THE AGENCY APPROVING THE USE OF INGESTED LIQUID(S).		
	Reply Instructions: Enter the reply in clear text. (e.g., BZRJGNATIONAL SANITATION TESTING LABORATORY*)		
ALL*			
	BZRK	G	POTABLE WATER USE APPROVING AGENCY
	Definition: THE NAME OF THE AGENCY APPROVING THE USE OF POTABLE WATER.		
	Reply Instructions: Enter the reply in clear text. (e.g., BZRKGNATIONAL SANITATION TESTING LABORATORY*)		
ALL*			
	AAGN	J	NOMINAL PIPE SIZE DESIGNATION

APP
Key MRC Mode Code Requirements

Definition: THE INDUSTRIAL DESIGNATION OR TERM USED TO DEFINE THE DIAMETER OF PIPE.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., AAGNJA1.125*; AAGNJL28.0*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

ALL*

AAGT J WALL THICKNESS

Definition: A MEASUREMENT OF THE SMALLEST DIMENSION OF THE WALL, IN DISTINCTION FROM LENGTH OR WIDTH.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AAGTJAA0.140*; AAGTJLA3.5*; AAGTJAB0.109$$JAC0.140*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL*

AARX J INSIDE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A CIRCULAR FIGURE OR BODY, AND TERMINATES AT THE INSIDE CIRCUMFERENCE.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AARXJAA1.380*; AARXJLA30.0*; AARXJAB1.484$$JAC1.516*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL*

ABKV J OUTSIDE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A CIRCULAR FIGURE OR BODY, AND TERMINATES AT THE OUTSIDE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABKVJAA1.380*; ABKVJLA35.5*; ABKVJAB1.250$$JAC1.312*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL*

ABRY J LENGTH

APP Key	MRC	Mode Code	Requirements

Definition: A MEASUREMENT OF THE LONGEST DIMENSION OF ANY OBJECT, IN DISTINCTION FROM WIDTH.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABRYJFA20.0*; ABRYJMA6.0*; ABRYJFB20.0$$JFC20.5*)

Table 1

REPLY CODE	REPLY (AA05)
F	FEET
M	METERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

AJFX L END CONNECTION STYLE

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE END OF THE CONNECTION.

Reply Instructions: Enter the group designator and applicable style number from Appendix B , Reference Drawing Group A. (e.g., AJFXLA1*)

ALL*

ACED A TERMINATION THREADS PER INCH

Definition: THE NUMBER OF THREADS PER INCH OF A THREADED TERMINATION.

Reply Instructions: Enter the quantity. (e.g., ACEDA18*)

ALL*

THSD D THREAD SERIES DESIGNATOR

APP Key	MRC	Mode Code	Requirements

Definition: A DESIGNATION DISTINGUISHING ONE GROUP OF THREAD DIAMETER-PITCH COMBINATIONS FROM ANOTHER BY THE NUMBER OF THREADS PER MEASUREMENT SCALE FOR A SPECIFIC DIAMETER.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 4. (e.g., THSDDSM*)

ALL*

CQJX J NOMINAL THREAD SIZE

Definition: A DESIGNATION THAT IS USED FOR THE PURPOSE OF GENERAL IDENTIFICATION OF THE THREAD.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., CQJXJA0.750*; CQJXJL12.0*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

ALL*

CQQR B THREAD PITCH IN MILLIMETERS

Definition: A MEASUREMENT OF DISTANCE BETWEEN CORRESPONDING POINTS ON TWO ADJACENT THREADS MEASURED PARALLEL TO THE THREAD AXIS, EXPRESSED IN MILLIMETERS.

Reply Instructions: Enter the numeric value. (e.g., CQQRB1.75*)

ALL*

CTTC J THREAD TOLERANCE CLASS

Definition: A NUMERIC-ALPHA DESIGNATOR INDICATING ESTABLISHED PITCH AND CREST DIAMETER TOLERANCE POSITION AND GRADE.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the designator. (e.g., CTTCJNTE4H6H*)

When the pitch and crest diameter tolerances are identical i.e., M6 X 1-6H 6H, enter the designation one. (e.g., CTTCJNTE6H*)

APP Key	MRC	Mode Code	Requirements

REPLY CODE	REPLY (AN73)
EXT	EXTERNAL
NTE	INTERNAL

ALL*

AAJF D THREAD DIRECTION

Definition: THE DIRECTION OF THE THREAD WHEN VIEWED AXIALLY. A RIGHT-HAND THREAD WINDS IN A CLOCKWISE DIRECTION WHILE A LEFT-HAND THREAD WINDS IN A COUNTERCLOCKWISE DIRECTION.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., AAJFDR*)

If threaded external and internal type, use AND/OR ($$/$) coding, entering the internal thread direction first. (e.g., AAFJDR$$DR; AAFJDR$DR*)*

REPLY CODE	REPLY (AA38)
L	LEFT-HAND
R	RIGHT-HAND

ALL*

BPNW D COUPLING

Definition: AN INDICATION OF WHETHER OR NOT A COUPLING(S) IS INCLUDED.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., BPNWDB*)

REPLY CODE	REPLY (AA49)
B	INCLUDED
C	NOT INCLUDED

ALL*

ADKZ J HYDROSTATIC TEST PRESSURE

APP Key	MRC	Mode Code	Requirements

Definition: A STEADY UNIFORM INTERNAL STATIC PRESSURE THAT THE ITEM MUST WITHSTAND WITHOUT LEAKAGE, ABNORMAL DISTORTION, OR DAMAGE.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., ADKZJV600.0*; ADKZJK800.0*)

REPLY CODE	REPLY (AB18)
F	BAR
K	KILOGRAMS PER SQUARE CENTIMETER
V	POUNDS PER SQUARE INCH (PSI)

ALL*

BJDW J MAXIMUM OPERATING PRESSURE

Definition: THE MAXIMUM PRESSURE AT WHICH THE ITEM IS DESIGNED TO OPERATE.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., BJDWJDQ850.0*; BJDWJCR1000.0*)

REPLY CODE	REPLY (AJ20)
KC	BAR
CR	KILOGRAMS PER SQUARE CENTIMETER
DQ	POUNDS PER SQUARE INCH (PSI)

ALL

HUES D COLOR

Definition: A CHARACTERISTIC OF LIGHT THAT CAN BE SPECIFIED IN TERMS OF LUMINANCE, DOMINANT WAVELENGTH, AND PURITY.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., HUESDCL0001*; HUESDBL0000$$DGY0000*; HUESDBL0000$DGY0000*)

REPLY CODE	REPLY (AD06)
BL0000	BLACK
BU0141	BLUE GRAY, LIGHT
CL0001	COLORLESS
GY0000	GRAY
GY0002	GRAY, LIGHT

FIIG T
Section Parts

APP Key	MRC	Mode Code	Requirements
		WH0000	WHITE

SECTION: D

APP Key	MRC	Mode Code	Requirements
ALL			
	NAME	D	ITEM NAME

Definition: A NOUN, WITH OR WITHOUT MODIFIERS, BY WHICH AN ITEM OF SUPPLY IS KNOWN.

Reply Instructions: Enter the applicable Item Name Code appearing in the Approved Item Name Index. (e.g., NAMED21989*)

ALL			
	AHSA	D	TUBING MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH THE TUBING IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 1. (e.g., AHSADBR0000*; AHSADBR0000$$DST0000*; AHSADBR0000$DST0000*)

ALL			
	BBYQ	J	TUBE OUTSIDE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF THE TUBE, AND TERMINATES AT THE OUTSIDE CIRCUMFERENCE.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., BBYQJAA1.500*; BBYQJLA40.0*; BBYQJAB1.484$$JAC1.515*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

APP Key	MRC	Mode Code	Requirements
ALL			
	AAGT	J	WALL THICKNESS

Definition: A MEASUREMENT OF THE SMALLEST DIMENSION OF THE WALL, IN DISTINCTION FROM LENGTH OR WIDTH.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AAGTJAA0.042*; AAGTJLA1.5*; AAGTJAB0.047$$JAC0.063*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL

AJFX L END CONNECTION STYLE

Definition: THE STYLE DESIGNATION INDICATING THE CONFIGURATION THAT MOST NEARLY CORRESPONDS TO THE APPEARANCE OF THE END CONNECTION.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the group designator and applicable style number from Appendix B, Reference Drawing Group B. (e.g., AJFX1XLB1*)

For each different end, use the priority sequence established in Appendix B, Reference Drawing Group B. (e.g., AJFX1ALB1*, AJFX1BLB36*)

APP Key	MRC	Mode Code	Requirements

NOTE FOR MRCS AWPS, AFQW, MATL, THSD, CQJX, CMLP, CQQR, CTTC, AAJD, AAJE, AAJF, AJFY, AJFZ, AECS, AHNX, AND ABKG: IF ONE OR BOTH ENDS OF THE ITEM CONTAINS A CONNECTION WITH SPECIAL DESIGN, REPLY TO MRC AWPS. IF THE ITEM HAS EXTERNAL OR INTERNAL THREADED END CONNECTIONS ON ONE OR BOTH ENDS, REPLY TO MRCS AFQW, MATL, THSD, CQJX, CMLP OR CQQR, AAJD, AAJE, AAJF, AND TO AJFY AND/OR AJFZ, AS APPLICABLE. IF THE ITEM IS FLANGED WITH BOLT HOLES ON ONE OR BOTH ENDS, REPLY TO MRCS AFQW, MATL, AECS, AHNX, AND ABKG. FOR ITEMS INDICATING A TOLERANCE, USE AND CODING ($$) FOR MRCS AJFZ, AHNX, AND ABKG.

ALL* (See Note Above)

AWPS D CONNECTION SPECIAL DESIGN

Definition: THE SPECIAL DESIGN OF THE CONNECTION.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable reply codes from tables below. (e.g., AWPS1XDBP*; AWPS1ADBP$DCD*)

REPLY CODE	REPLY (AB76)
CD	BULKHEAD
BP	UNION

ALL* (See Note Preceding MRC AWPS)

AFQW A MATING END QUANTITY

Definition: THE NUMBER OF MATING ENDS PROVIDED WITH THE ITEM WHICH ARE DESIGNED TO ACCOMMODATE ANOTHER CONNECTOR.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the quantity. (e.g., AFQW1XA2*)

ALL* (See Note Preceding MRC AWPS)

MATL D MATERIAL

Definition: THE ELEMENT, COMPOUND, OR MIXTURE OF WHICH AN ITEM IS FABRICATED, EXCLUDING ANY SURFACE TREATMENT.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter ISAC code from Appendix A , Table 5, followed by the applicable Reply Code from Appendix A, Table 1. (e.g., MATL1XDBR0000*; MATL1ADBR0000$$DST0000*; MATL1BDBR0000$DST0000*)

ALL* (See Note Preceding MRC AWPS)

THSD D THREAD SERIES DESIGNATOR

Definition: A DESIGNATION DISTINGUISHING ONE GROUP OF THREAD DIAMETER-PITCH COMBINATIONS FROM ANOTHER BY THE NUMBER OF THREADS PER MEASUREMENT SCALE FOR A SPECIFIC DIAMETER.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable Reply Code from Appendix A, Table 4. (e.g., THSD1XDSM*)

ALL* (See Note Preceding MRC AWPS)

CQJX J NOMINAL THREAD SIZE

Definition: A DESIGNATION THAT IS USED FOR THE PURPOSE OF GENERAL IDENTIFICATION OF THE THREAD.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable Reply Code from the table below, followed by the numeric value. (e.g., CQJX1XJA0.750*; CQJX1BJL12.0*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

ALL* (See Note Preceding MRC AWPS)

CMLP A THREAD QUANTITY PER INCH

Definition: THE NUMBER OF THREADS ON THE ITEM PER LINEAR INCH MEASURED ON A LINE PARALLEL TO THE THREAD AXIS.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the numeric value. (e.g., CMLP1XA20*; CMLP1AA4-1/2*)

ALL* (See Note Preceding MRC AWPS)

CQQR B THREAD PITCH IN MILLIMETERS

APP Key	MRC	Mode Code	Requirements

Definition: A MEASUREMENT OF DISTANCE BETWEEN CORRESPONDING POINTS ON TWO ADJACENT THREADS MEASURED PARALLEL TO THE THREAD AXIS, EXPRESSED IN MILLIMETERS.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the numeric value. (e.g., CQQR1XB1.75*)

ALL* (See Note Preceding MRC AWPS)

CTTC J THREAD TOLERANCE CLASS

Definition: A NUMERIC-ALPHA DESIGNATOR INDICATING ESTABLISHED PITCH AND CREST DIAMETER TOLERANCE POSITION AND GRADE.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable reply code from the table below, followed by the designator. (e.g., CTTC1XJNTE6H*)

When the pitch and crest diameter tolerances are identical i.e., M6 X 1-6H 6H, enter the designation one: (e.g., CTTC1XJNTE6H*)

REPLY CODE	REPLY (AN73)
EXT	EXTERNAL
NTE	INTERNAL

ALL* (See Note Preceding MRC AWPS)

AAJD A THREAD CLASS

Definition: A NUMERIC-ALPHA DESIGNATOR INDICATING THE PITCH DIAMETER TOLERANCE AND AN EXTERNAL OR INTERNAL THREAD.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the thread class. (e.g., AAJD1XA3A*)

ALL* (See Note Preceding MRC AWPS)

AAJE J THREAD PITCH DIAMETERS

Definition: THE MINIMUM AND MAXIMUM PITCH DIAMETER LIMITS OF A STRAIGHT SCREW THREAD.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable reply code from the table below, followed by the minimum and maximum pitch diameter. Dimensions will be entered in decimal form separated by a slash mark and proceeded by the letter "P" denoting positive values. (e.g., AAJE1XJAP0.065/P0.090*; AAJE1AJLP1.5/P2.0*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

ALL* (See Note Preceding MRC AWPS)

AAJF D THREAD DIRECTION

Definition: THE DIRECTION OF THE THREAD WHEN VIEWED AXIALLY. A RIGHT-HAND THREAD WINDS IN A CLOCKWISE DIRECTION WHILE A LEFT-HAND THREAD WINDS IN A COUNTERCLOCKWISE DIRECTION.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable reply code from the table below. (e.g., AAJF1XDL*)

REPLY CODE	REPLY (AA38)
L	LEFT-HAND
R	RIGHT-HAND

ALL* (See Note Preceding MRC AWPS)

AJFY B SEAT ANGLE IN DEG

Definition: THE ANGLE OF THE END SURFACE UPON WHICH THE MATED SURFACE SEATS, EXPRESSED IN DEGREES.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the numeric value. (e.g., AJFY1XB45.0*)

ALL* (See Note Preceding MRC AWPS)

AJFZ J SEAT RADIUS

Definition: THE RADIUS OF THE END SURFACE UPON WHICH THE MATED SURFACE SEATS.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AJFZ1XJAA0.125*; AJFZ1XJLA3.1*; AJFZ1AJAB0.109$$JAC0.140*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL* (See Note Preceding MRC AWPS)

AECS A BOLT HOLE QUANTITY

Definition: THE NUMBER OF BOLT HOLES PROVIDED ON THE ITEM.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the quantity. (e.g., AECS1XA4*)

ALL* (See Note Preceding MRC AWPS)

AHNX J BOLT HOLE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF THE BOLT HOLE, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AHNX1XJAA0.250*; AHNX1AJLA6.5*; AHNX1AJAB0.234$$JAC0.267*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM

APP Key	MRC	Mode Code	Requirements
		C	MAXIMUM

ALL* (See Note Preceding MRC AWPS)

ABKG J BOLT CIRCLE DIAMETER

Definition: THE LENGTH OF A STRAIGHT LINE WHICH PASSES THROUGH THE CENTER OF A BOLT CIRCLE, AND TERMINATES AT THE CIRCUMFERENCE.

Reply Instructions: Enter the ISAC from Appendix A , Table 5, followed by the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABKG1XJAA1.250*; ABKG1BJLA30.0*; ABKG1AJAB1.234$$JAC1.267*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

ALL*

BZRS G END CONNECTION SPEC/STD

Definition: THE SPECIFICATION AND/OR STANDARD OF THE END CONNECTION.

Reply Instructions: Enter the reply in clear text.

(e.g., BZRSGMIL, MS20819, PART NO. MS20819-16C*)

ALL

ARJD D DESIGN FORM

Definition: THE PHYSICAL CONFIGURATION OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., ARJDDAAK*; ARJDDAAK$DAEZ*)

APP Key	MRC	Mode Code	Requirements

REPLY CODE	REPLY (AL52)
AEZ	PREBENT
AAK	STRAIGHT

NOTE FOR MRC ABHP: IF REPLY CODE AAK IS ENTERED FOR MRC ARJD, REPLY TO MRC ABHP.

ALL* (See Note Above)

ABHP J OVERALL LENGTH

Definition: THE DIMENSION MEASURED ALONG THE LONGITUDINAL AXIS WITH TERMINATED POINTS AT THE EXTREME ENDS OF THE ITEM.

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABHPJAA12.500*; ABHPJLA300.0*; ABHPJAB12.000$$JAC13.000*)

Table 1

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

Table 2

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

SECTION: STANDARD

APP Key	MRC	Mode Code	Requirements

NOTE FOR MRCS CBBL AND FEAT: E MODE REPLIES WILL NOT BE ACCEPTED IN REPLY TO MRC CBBL. IF A REPLY IS NOT REFLECTED IN THE TABLE FOR CBBL, ENTER THE FEATURE IN REPLY TO MRC FEAT.

ALL* (See Note Above)

CBBL D FEATURES PROVIDED

Definition: THOSE FEATURES, NOT OTHERWISE SPECIFIED, WHICH MAY BE REQUIRED FOR PROPER FUNCTIONING OF THE ITEM.

Reply Instructions: Enter the applicable Reply Code from the table below. (e.g., CBBLDBBM; CBBLDBBM$$DBBP*)

REPLY CODE	REPLY (AN47)
BMP	JOINT GASKETS
BBM	OUTER COVERING
BMQ	PERFORATIONS
BBP	SUPPORT BRACKET

ALL * (See Note Preceding MRC CBBL)

FEAT G SPECIAL FEATURES

Definition: THOSE UNUSUAL OR UNIQUE CHARACTERISTICS OR QUALITIES OF AN ITEM NOT COVERED IN THE OTHER REQUIREMENTS AND WHICH ARE DETERMINED TO BE ESSENTIAL FOR IDENTIFICATION.

Reply Instructions: Enter the reply in clear text. Separate multiple replies with a semicolon. (e.g., FEATGADJUSTABLE NOSE CLIP*; FEATGADJUSTABLE NOSE PIECE; DISPOSABLE*)

ALL*

TEST J TEST DATA DOCUMENT

APP Key	MRC	Mode Code	Requirements

Definition: THE SPECIFICATION, STANDARD, DRAWING, OR SIMILAR INSTRUMENT THAT SPECIFIES ENVIRONMENTAL AND PERFORMANCE REQUIREMENTS OR TEST CONDITIONS UNDER WHICH AN ITEM IS TESTED AND ESTABLISHES ACCEPTABLE LIMITS WITHIN WHICH THE ITEM MUST CONFORM IDENTIFIED BY AN ALPHABETIC AND/OR NUMERIC REFERENCE NUMBER. INCLUDES THE COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE OF THE ENTITY CONTROLLING THE INSTRUMENT.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the 5-position CAGE Code, a dash, and the document identification number.

(e.g., TESTJA12345-CWX654321*;

TESTJA1234A-654321$$JB5556A-663654*;

TESTJAA2345-654321$JB55566-663654*)

REPLY CODE	REPLY (AC28)
A	SPECIFICATION (Includes engineering type bulletins, brochures, etc., that reflect specification type data in specification format; excludes commercial catalogs, industry directories, and similar trade publications, reflecting general type data on certain environmental and performance requirements and test conditions that are shown as "typical," "average," "nominal," etc.)
B	STANDARD (Includes industry or association standards, individual manufacturer standards, etc.)
C	DRAWING (This is the basic governing drawing, such as a contractor drawing, original equipment manufacturer drawing, etc.; excludes any specification, standard, or other document that may be referenced in a basic governing drawing)

ALL*

SPCL	G	SPECIAL TEST FEATURES

Definition: TEST CONDITIONS AND RATINGS, OR ENVIRONMENTAL AND PERFORMANCE REQUIREMENTS THAT ARE DIFFERENT, MORE CRITICAL, OR MORE SPECIFIC THAN THOSE SPECIFIED IN A GOVERNING TEST DATA DOCUMENT.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the reply in clear text. (e.g., SPCLGSELECTED AND TESTED FOR NAVIGATIONAL SYSTEMS*)

ALL*

ZZZK J SPECIFICATION/STANDARD DATA

Definition: THE DOCUMENT DESIGNATOR OF THE SPECIFICATION OR STANDARD WHICH ESTABLISHED THE ITEM OF SUPPLY.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the Commercial and Government Entity (CAGE) Code of the entity controlling the document, a dash, and the document designator. The agency that controls the limited coordination document must be preceded and followed by a slash following the designator. The word canceled or superseded must be preceded and followed by a slash for the designator. Professional and industrial association specifications/standards are differentiated from a manufacturer's specification in that the data has been coordinated and published by the professional and industrial association. Include amendments and revisions where applicable.

(e.g., ZZZKJT81337-30642B*;

ZZZKJS81349-MIL-D-180 REV1/CANCELED/*;

ZZZKJP80205-NAS1103*;

ZZZKJS81349-MIL-C-1140C/CE/*;

ZZZKJT81337-30642B$$JP80205-NAS1103*)

REPLY CODE	REPLY (AN62)
S	GOVERNMENT SPECIFICATION
T	GOVERNMENT STANDARD
D	MANUFACTURERS SOURCE CONTROL
R	MANUFACTURERS SPECIFICATION
N	MANUFACTURERS SPECIFICATION CONTROL
M	MANUFACTURERS STANDARD
B	NATIONAL STD/SPEC
A	PROFESSIONAL/INDUSTRIAL ASSOCIATION SPECIFICATION
P	PROFESSIONAL/INDUSTRIAL ASSOCIATION STANDARD

APP Key	MRC	Mode Code	Requirements

NOTE FOR MRC ZZZT: IF THE SPECIFICIATION/STANDARD CITED IN REPLY TO MRC ZZZK IS NONDEFINITIVE, REPLY TO MRC ZZZT. THIS REPLY IS THE DATA WHICH IS NOT RECORDED IN SEGMENT C.

ALL* (See Note Above)

ZZZT J NONDEFINITIVE SPEC/STD DATA

Definition: THE NUMBER, LETTER, OR SYMBOL THAT INDICATES THE TYPE, STYLE, GRADE, CLASS, AND THE LIKE, OF AN ITEM IN A NONIDENTIFYING SPECIFICATION OR STANDARD.

Reply Instructions: Enter the applicable Reply Code from Appendix A , Table 3, followed by the appropriate number, letter, or symbol. (e.g., ZZZTJTY1*; ZZZTJTY1$$JSTA*; ZZZTJTY1$JSTA*)

ALL*

ZZZW G DEPARTURE FROM CITED DOCUMENT

Definition: THE TECHNICAL DIFFERENTIATING CHARACTERISTIC(S) OF AN ITEM OF SUPPLY WHICH DEPART(S) FROM THE TEXT OF A SPECIFICATION OR A STANDARD IN THAT IT REPRESENTS A SELECTION OF CHARACTERISTICS STATED IN THE SPECIFICATION OR STANDARD AS BEING OPTIONAL, OR A VARIATION FROM ONE OR MORE OF THE STATED CHARACTERISTICS, OR AN ADDITIONAL CHARACTERISTIC NOT STATED IN THE SPECIFICATION OR STANDARD.

Reply Instructions: Enter the reply in clear text. (e.g., ZZZWGAS MODIFIED BY MATERIAL*)

ALL*

ZZZX G DEPARTURE FROM CITED DESIGNATOR

Definition: THE VARIATION WHEN THE ITEM IS IN CONFORMITY WITH A TYPE DESIGNATOR COVERED BY A SPECIFICATION OR STANDARD, EXCEPT IN REGARD TO ONE OR MORE TECHNICAL DIFFERENTIATING CHARACTERISTICS.

Reply Instructions: Enter the reply in clear text. (e.g., ZZZXGAS MODIFIED BY MATERIAL*)

ALL*

APP Key	MRC	Mode Code	Requirements
	ZZZY	G	REFERENCE NUMBER DIFFERENTIATING CHARACTERISTICS

Definition: A FEATURE OF THE ITEM OF SUPPLY WHICH MUST BE SPECIFICALLY RECORDED WHEN THE REFERENCE NUMBER COVERS A RANGE OF ITEMS.

Reply Instructions: Enter the reply in clear text. (e.g., ZZZYGCOLOR CODED LEADS*; ZZZYGAS DIFFERENTIATED BY MATERIAL*)

ALL*

	CRTL	A	CRITICALITY CODE JUSTIFICATION

Definition: THE MASTER REQUIREMENT CODES OF THOSE REQUIREMENTS WHICH ARE TECHNICALLY CRITICAL BY REASON OF TOLERANCE, FIT, PERFORMANCE, OR OTHER CHARACTERISTICS WHICH AFFECT IDENTIFICATION OF THE ITEM.

Reply Instructions: Enter the Master Requirement Code for the requirement, the reply to which renders the item as being critical. (e.g., CRTLAMATL*; CRTLAMATL$$ASURF*)

Reply to this requirement only if the header record for the item identification for the item being identified has been coded as critical.

NOTE FOR MRC PRPY: IF DOCUMENT AVAILABILITY CODE B, D, F, OR H, REPLY TO MRC PRPY.

ALL* (See Note Above)

	PRPY	A	PROPRIETARY CHARACTERISTICS

Definition: IDENTIFICATION OF THOSE CHARACTERISTICS INCLUDED IN THE DESCRIPTION FOR WHICH A NON-GOVERNMENT ACTIVITY HAS IDENTIFIED ALL OR SELECTED CHARACTERISTICS OF THE ITEM AS BEING PROPRIETARY AND THEREFORE RESTRICTED FROM RELEASE OUTSIDE THE GOVERNMENT WITHOUT PRIOR PERMISSION OF THE ORIGINATOR OF THE DATA.

APP Key	MRC	Mode Code	Requirements

Reply Instructions: Enter the MRC codes of the individual characteristics of the description which are marked proprietary on the technical data, using AND coding ($$) for multiple characteristics. If all the MRCs are proprietary, enter the reply PACS. If none of the MRCs is proprietary, enter the reply NPAC. (e.g., PRPYAPACS*; PRPYANPAC*; PRPYAMATL$$ASURF*)

ALL*

ELRN G EXTRA LONG REFERENCE NUMBER

Definition: A REFERENCE NUMBER EXCEEDING 32 POSITIONS.

Reply Instructions: Enter the entire reference number. Do not include the 5-position Commercial and Government Entity (CAGE) Code unless there is more than one extra long reference number on the NSN, (e.g., ELRNGANN112036BIL060557LEN313605UZ62365*).

If there is more than one extra long reference number on the NSN, include the CAGE or NCAGE and separate each reference by using the "&" character, (e.g., 28480 ANN112036BIL060557LEN313605UZ62365 & S1234 NN112036BIL060557LEN313605UZ62365).

In determining quantity of characters in the reference number, count will be made after modification in accordance with Volume 2, Chapter 9, FLIS Procedures Manual, DoD 4100.39-M.

NOTE FOR MRC NHCF: IF THE CRITICALITY CODE IS E, H, OR M, REPLY TO MRC NHCF.

ALL*

NHCF D NUCLEAR HARDNESS CRITICAL FEATURE

Definition: AN INDICATION OF THE NUCLEAR HARDNESS CRITICALITY OF THE ITEM.

Reply Instructions: Enter the reply code from the table below. (e.g., NHCFDCY*)

REPLY CODE	REPLY (AD05)
CY	HARDENED

ALL*

APP Key	MRC	Mode Code	Requirements
	ELCD	D	EXTRA LONG CHARACTERISTIC DESCRIPTION

Definition: A DESCRIPTION THAT EXCEEDS 5000 CHARACTERS.

Reply Instructions: Enter the Reply Code from the table below. (e.g., ELCDDA*)

REPLY CODE	REPLY (AN58)
A	ADDITIONAL DESCRIPTIVE DATA ON MANUAL RECORD

SECTION: SUPPTECH

APP Key	MRC	Mode Code	Requirements
ALL			
	AFJK	J	CUBIC MEASURE

Definition: A MEASUREMENT OF VOLUME TAKEN BY MULTIPLYING THE LENGTH BY THE WIDTH BY THE HEIGHT OF AN ITEM AND RENDERED IN CUBIC UNITS.

Reply Instructions: Enter the applicable Reply Code from the table below, followed by the numeric value. (e.g., AFJKJF1.0219*; AFJKJE26.0*)

REPLY CODE	REPLY (AD42)
F	CUBIC FEET
E	CUBIC METERS

ALL			
	SUPP	G	SUPPLEMENTARY FEATURES

Definition: CHARACTERISTICS OR QUALITIES OF AN ITEM, NOT COVERED IN ANY OTHER REQUIREMENT, WHICH ARE CONSIDERED ESSENTIAL INFORMATION FOR ONE OR MORE FUNCTIONS EXCLUDING NSN ASSIGNMENT.

Reply Instructions: Enter the reply in clear text. (e.g., SUPPGMAY INCL HOLE IN UPPER SUPPORT FOR MTG DURING SHIPMENT*)

ALL			
	ZZZP	J	PURCHASE DESCRIPTION IDENTIFICATION

Definition: THE CONTROLLING ACTIVITY AND IDENTIFICATION OF A DOCUMENT USED IN LIEU OF A SPECIFICATION IN THE PROCUREMENT OF AN ITEM OF SUPPLY.

Reply Instructions: Enter the 5-position Commercial and Government Entity (CAGE) code followed by a dash and the identifying number of the document.

(e.g., ZZZPJ81337-30624A*)

ALL			
	ZZZV	G	FSC APPLICATION DATA

APP Key	MRC	Mode Code	Requirements

Definition: THE JUSTIFICATION FOR THE ASSIGNMENT OF A FEDERAL SUPPLY CLASS (FSC) TO AN ITEM BASED ON THE CLASSIFICATION OF THE NEXT HIGHER CLASSIFIABLE ASSEMBLY.

Reply Instructions: Enter the name of the next higher classifiable assembly in clear text. (e.g., ZZZVGBEARINGS, ANTIFRICTION, UNMOUNTED*)

ALL

AGAV G END ITEM IDENTIFICATION

Definition: THE NATIONAL STOCK NUMBER OR THE IDENTIFICATION INFORMATION OF THE END EQUIPMENT FOR WHICH THE ITEM IS A PART.

Reply Instructions: Enter the reply in clear text.

(e.g., AGAVG3930-00-000-0000*;

AGAVGFORKLIFT TRUCK, SMITH CORP, MODEL 12, TYPE A*)

ALL

CXCY G PART NAME ASSIGNED BY CONTROLLING AGENCY

Definition: THE NAME ASSIGNED TO THE ITEM BY THE GOVERNMENT AGENCY OR COMMERCIAL ORGANIZATION CONTROLLING THE DESIGN OF THE ITEM.

Reply Instructions: Enter the reply in clear text. (e.g., CXCYGLINE PROCESSOR CONTROL BOARD*)

Reply Tables

Table 1 - MATERIAL

MATERIAL

REPLY CODE	REPLY (AD09)
AC0000	ACETATE COATED
ALC000	ALUMINUM
AL0000	ALUMINUM ALLOY
AL1256	ALUMINUM ALLOY, AMS 4070
AL2224	ALUMINUM ALLOY, AMS 4071
AL2225	ALUMINUM ALLOY, AMS 4079
AL1230	ALUMINUM ALLOY, AMS 4080
AL1822	ALUMINUM ALLOY, AMS 4082, ALLOY 6061, T6
AL1049	ALUMINUM ALLOY, AMS 4083
AL0173	ALUMINUM ALLOY, AMS 4088
AL0869	ALUMINUM ALLOY, AMS 4117
AL1796	ALUMINUM ALLOY, AN-A-13, COND T
AL2140	ALUMINUM ALLOY, MIL-A-12545, ALLOY 6061, T6
AL2266	ALUMINUM ALLOY, MIL-A-21180, ALLOY A356, CLASS 12, GRADE B, T61
AL1056	ALUMINUM ALLOY, MIL-T-7081
AL1162	ALUMINUM ALLOY, MIL-T-7081, ALLOY 6061
AL1163	ALUMINUM ALLOY, MIL-T-7081, ALLOY 6061, T6
AL2264	ALUMINUM ALLOY, MIL-T-7081, ALLOY 6062, COND T6-CANCELED
AL2139	ALUMINUM ALLOY, MIL-T-7081, T4
AL1551	ALUMINUM ALLOY, MIL-T-7081, T6
AL2222	ALUMINUM ALLOY, MMS-156, COND T6, MCDONNELL DOUGLAS CORP, MCDONNELL AIRCRAFT CO
AL0116	ALUMINUM ALLOY, QQ-A-200/4
AL0117	ALUMINUM ALLOY, QQ-A-200/5
AL0281	ALUMINUM ALLOY, QQ-A-225/6, ALLOY 2024, T6
AL0282	ALUMINUM ALLOY, QQ-A-225/6, ALLOY 2024, T851
AL0131	ALUMINUM ALLOY, QQ-A-225/7
AL0049	ALUMINUM ALLOY, QQ-A-225/8, ALLOY 6061
AL0293	ALUMINUM ALLOY, QQ-A-225/8, ALLOY 6061, T6
AL0294	ALUMINUM ALLOY, QQ-A-225/8, ALLOY 6061, T651
AL0887	ALUMINUM ALLOY, QQ-A-225/8, T6
AL0361	ALUMINUM ALLOY, QQ-A-250/7, ALLOY 5086, H32
AL0996	ALUMINUM ALLOY, QQ-A-250/8, O
AL0383	ALUMINUM ALLOY, QQ-A-250/10, ALLOY 5454, H34
AL0387	ALUMINUM ALLOY, QQ-A-250/11, ALLOY 6061, T6
AL1651	ALUMINUM ALLOY, QQ-A-287, T5511-CANCELED
AL0531	ALUMINUM ALLOY, QQ-A-318-CANCELED
AL0657	ALUMINUM ALLOY, QQ-A-351, ALLOY 2017-CANCELED
AL1998	ALUMINUM ALLOY, QQ-A-362, ANNEALED-CANCELED
AL1558	ALUMINUM ALLOY, QQ-A-367, T6
	Aluminum Alloy, WW-T-656, Cond A-Invalid
AL2256	ALUMINUM ALLOY, WW-T-700, O

REPLY CODE	REPLY (AD09)
AL2257	ALUMINUM ALLOY, WW-T-700, O, TYPE 1
AL2254	ALUMINUM ALLOY, WW-T-700, TYPE 1
AL2255	ALUMINUM ALLOY, WW-T-700, TYPE 4D
AL2258	ALUMINUM ALLOY, WW-T-700, T6, TYPE 1
AL2253	ALUMINUM ALLOY, WW-T-700/1, TYPE 1
AL1288	ALUMINUM ALLOY, WW-T-700/2, H14, TYPE 1
AL1031	ALUMINUM ALLOY, WW-T-700/2, TO, TYPE 1
AL1059	ALUMINUM ALLOY, WW-T-700/4
AL2410	ALUMINUM ALLOY, WW-T-700/4, ALLOY 5052
AL2148	ALUMINUM ALLOY, WW-T-700/4, H32, TYPE 1
AL2151	ALUMINUM ALLOY, WW-T-700/4, H34, TYPE 1
AL1634	ALUMINUM ALLOY, WW-T-700/4, O
AL1561	ALUMINUM ALLOY, WW-T-700/4, O, TYPE 1
AL0648	ALUMINUM ALLOY, WW-T-700/4, TYPE 1
AL1168	ALUMINUM ALLOY, WW-T-700/4, TYPE 1
AL2182	ALUMINUM ALLOY, WW-T-700/5, H32, TYPE 1
AL2247	ALUMINUM ALLOY, WW-T-700/5, O, TYPE 1
AL0650	ALUMINUM ALLOY, WW-T-700/5, TYPE 1
AL0998	ALUMINUM ALLOY, WW-T-700/6
AL1826	ALUMINUM ALLOY, WW-T-700/6, ALLOY 6061
AL2130	ALUMINUM ALLOY, WW-T-700/6, ALLOY 6061, TO
AL2180	ALUMINUM ALLOY, WW-T-700/6, ALLOY 6061, TO, TYPE 1
AL2248	ALUMINUM ALLOY, WW-T-700/6, ALLOY 6061, T4, TYPE 1
AL1722	ALUMINUM ALLOY, WW-T-700/6, ALLOY 6061, T6
AL1733	ALUMINUM ALLOY, WW-T-700/6, ALLOY 6061, T6, TYPE 1
AL0646	ALUMINUM ALLOY, WW-T-700/6, TEMPER T6, TYPE 1
AL1799	ALUMINUM ALLOY, WW-T-700/6, T4, TYPE 1
AL0964	ALUMINUM ALLOY, WW-T-700/6, T6
AL0932	ALUMINUM ALLOY, WW-T-700/6, T6, TYPE 1
AL2118	ALUMINUM ALLOY, WW-T-785, ALLOY 2024, T3-CANCELED
AL1051	ALUMINUM ALLOY, WW-T-787-CANCELED
	Aluminum Alloy, WW-T-787, Condition Annealed-Invalid (use Reply Code AL1978)
AL2119	ALUMINUM ALLOY, WW-T-787, H34-CANCELED
AL2226	ALUMINUM ALLOY, WW-T-787, TEMP O, TYPE 1-CANCELED
AL1978	ALUMINUM ALLOY, WW-T-787, TEMPER O-CANCELED
AL1979	ALUMINUM ALLOY, WW-T-787, TYPE 1-CANCELED
	Aluminum Alloy, WW-T-787, Type 5052, 52SO-Invalid (use Reply Code AL1978)
AL2265	ALUMINUM ALLOY, WW-T-788, TYPE 3-CANCELED
AL2250	ALUMINUM ALLOY, WW-T-789, ALLOY 6061, T6, TYPE 1-CANCELED
AL0966	ALUMINUM ALLOY, WW-T-789, T6-CANCELED
AL1778	ALUMINUM ALLOY, WW-T-789, T6, TYPE 1-CANCELED
AL0102	ALUMINUM ALLOY, 2024
AL1581	ALUMINUM ALLOY, 2024, TO
AL0937	ALUMINUM ALLOY, 2024, T3
AL0153	ALUMINUM ALLOY, 5052
AL0112	ALUMINUM ALLOY, 7075
ALA000	ALUMINUM BRONZE

REPLY CODE	REPLY (AD09)
BR0000	BRASS
BR0423	BRASS, QQ-B-626, 1/2 HARD
BR0769	BRASS, WW-T-791, GRADE 1, TYPE D
BR0487	BRASS, WW-T-791, GRADE 2, TYPE A
BR0770	BRASS, WW-T-791, GRADE 2, TYPE B
BR0771	BRASS, WW-T-791, GRADE 2, TYPE C
BR0772	BRASS, WW-T-791, GRADE 2, TYPE D
BN0000	BRONZE
BNAE00	BRONZE ALLOY
CU0000	COPPER
CK0000	COPPER ALLOY
CU0203	COPPER, ASTM B68
CU0421	COPPER, ASTM B68, TYPE DHP
CU0097	COPPER, ASTM B280
CU0065	COPPER, MIL-C-947, TYPE 25S
CU0418	COPPER, MIL-T-873
CU0031	COPPER PLATED, MIL-C-14550
CU0412	COPPER, SAE J528
CU0206	COPPER, SAE 75
CUH000	COPPER-SILICON ALLOY
CU0094	COPPER, WW-T-775
CU0030	COPPER, WW-T-799
CU0419	COPPER, WW-T-799, CLASS 1
CU0334	COPPER, WW-T-799, TYPE K
CU0415	COPPER, WW-T-799, TYPE K, CLASS 1
CU0413	COPPER, WW-T-799, TYPE L
CU0369	COPPER, WW-T-799, TYPE N, ANNEALED
CU0420	COPPER, 55001, CUMMINS ENGINE CO INC
FA0000	FABRIC
FG0000	FIBERGLASS
FGAAF0	FIBERGLASS, SILICONE TREATED
FE0000	IRON
NF0370	NICKEL ALLOY, AMS 5599
NC0052	NICKEL COPPER ALLOY, AMS 4574
NC0088	NICKEL COPPER ALLOY, AMS 4575
NC0100	NICKEL COPPER ALLOY, MIL-T-1368, TYPE 1
NC0065	NICKEL COPPER ALLOY, MIL-T-1368
NC0101	NICKEL COPPER ALLOY, MIL-T-1368, TYPE 2
NC0000	NICKEL COPPER ALLOY (MONEL)
PC0000	PLASTIC
PCA000	PLASTIC, ACRYLONITRILE-BUTADIENE-STYRENE
PC0391	PLASTIC, ASTM D1784, TYPE 1, GRADE 1
PC2275	PLASTIC, ASTM D1785-68, TYPE 1, GRADE 1
PC2277	PLASTIC, ASTM D1785-69, TYPE 1, GRADE 1
PC2278	PLASTIC, ASTM D2241, SDR 13.5, TYPE 1, GRADE 1
PCG000	PLASTIC, CELLULOSE ACETATE BUTYRATE
PC0189	PLASTIC, L-P-389, TYPE 2

REPLY CODE	REPLY (AD09)
PCCR00	PLASTIC, POLYETHYLENE
PCAC00	PLASTIC, POLYETHYLENE TEREPHTHALATE
PCAF00	PLASTIC, POLYPROPYLENE
PCAK00	PLASTIC, POLYVINYL CHLORIDE
PCAP00	PLASTIC, POLYVINYL DICHLORIDE
PCAL00	PLASTIC, POLYVINYLIDENE CHLORIDE
RC3167	RUBBER, AMS 3207
RC2454	RUBBER, AMS 3208
RC3170	RUBBER, AMS 3226
RC1057	RUBBER, AMS 3302
RCH000	RUBBER, CHLOROPRENE
RC3722	RUBBER, MIL-R-3065, TYPE R, CLASS RN, GRADE 715ABFFG
RC3724	RUBBER, MIL-R-3065, TYPE R, CLASS RS, GRADE 509ABF
RC3721	RUBBER, MIL-R-3065, TYPE R, CLASS RS, GRADE 510ABF2
RC3712	RUBBER, MIL-R-3065, TYPE S, CLASS DB, GRADE 710ABF
RC3711	RUBBER, MIL-R-3065, TYPE S, CLASS SB, GRADE 612AEZ
RC3713	RUBBER, MIL-R-3065, TYPE S, CLASS SB, GRADE 715ABFF
RC3714	RUBBER, MIL-R-3065, TYPE S, CLASS SB, GRADE 810
RC3707	RUBBER, MIL-R-3065, TYPE S, CLASS SC, GRADE 612AEZ
RC3708	RUBBER, MIL-R-3065, TYPE S, CLASS SC, GRADE 615ABF
RC3718	RUBBER, MIL-R-3065, TYPE S, CLASS SC, GRADE 620A1B1C1F2G
RC3709	RUBBER, MIL-R-3065, TYPE S, CLASS SC, GRADE 710ABEFFZ
RC3710	RUBBER, MIL-R-3065, TYPE S, CLASS SC, GRADE 715ABF
RC3723	RUBBER, MIL-R-3065, TYPE S, CLASS SC, GRADE 715ABFFG
RC0982	RUBBER, MIL-R-6855, CLASS 2
RC0043	RUBBER, MIL-R-7362, TYPE 2
RC3725	RUBBER, MIL-STD-417, TYPE S, CLASS SC, GRADE 710AC1E3F2
RCB000	RUBBER, NATURAL
RCP000	RUBBER, NATURAL AND SYNTHETIC
RC3877	RUBBER, SAE 10R4, GRADE SC715
RCC000	RUBBER, SYNTHETIC
RC0865	RUBBER, SYNTHETIC, AMS 3208
RC0227	RUBBER, SYNTHETIC, MIL-R-6855, CLASS 2, GRADE 60
RC1848	RUBBER, SYNTHETIC, MIL-R-6855, CLASS 2, GRADE 70
	Rubber, Synthetic, MIL-S-6855, Class 2, Grade 60-CANCELED (use Reply Code RC0227)
RC3580	RUBBER, SYNTHETIC, MIL-STD-417, GRADE SC610
RC1333	RUBBER, SYNTHETIC, MIL-STD-417, TYPE S, CLASS SC, GRADE SC615A1B1C1F2
RCG000	RUBBER, SYNTHETIC OR NATURAL
RC0002	RUBBER, SYNTHETIC, SAE J14, GRADE SC810A
RC0003	RUBBER, SYNTHETIC, SAE J14, 10R2, CLASS SA
RC0569	RUBBER, SYNTHETIC, ZZ-H-428, TYPE 3, GRADE B, CLASS 3
ST0000	STEEL
ST8587	STEEL, A-0 CODE 0-201C, INTERNATIONAL HARVESTER CO
ST8092	STEEL, AISI C1008
ST8094	STEEL, AISI C1010

REPLY CODE	REPLY (AD09)
ST6787	STEEL, AISI C1012
ST8097	STEEL, AISI C1019
ST9635	STEEL, AISI C1112
ST8103	STEEL, AISI C1117
ST8575	STEEL, AISI C1137
ST6350	STEEL, AISI MTX1020
ST6337	STEEL, AISI MT1010
ST6342	STEEL, AISI MT1015
ST6349	STEEL, AISI MT1020
ST3844	STEEL, AISI 302
ST3845	STEEL, AISI 304
ST6770	STEEL, AISI 321
ST6771	STEEL, AISI 347
ST6335	STEEL, AISI 1010
ST6341	STEEL, AISI 1015
ST6541	STEEL, AISI 9255
ST0737	STEEL, ALLOY, FED STD 66, AISI OR SAE 1008
ST8065	STEEL, AMS 4928
ST3660	STEEL, AMS 5050
ST9165	STEEL, AMS 5556
ST7687	STEEL, AMS 5557
ST2635	STEEL, AMS 5560
ST8407	STEEL, AMS 5566
STC725	STEEL, AMS 5566, COND CD
ST1796	STEEL, AMS 5570
ST9166	STEEL, AMS 5571
ST2559	STEEL, AMS 5576
ST8036	STEEL, AMS 5591
ST2754	STEEL, AMS 5646
ST3090	STEEL, AMS 5648
STC685	STEEL, AMS 5672
ST8504	STEEL, AMS 5754
STB856	STEEL, AN-T-696
STD001	STEEL, ASTM A254
STC760	STEEL, ASTM A254, CLASS 1
STC722	STEEL, ASTM A254-46, CLASS 1
STC720	STEEL, ASTM A254-55
ST7074	STEEL, ASTM A269
ST3185	STEEL, ASTM A269, GRADE TP304
ST3252	STEEL, ASTM A269, TP316
STC723	STEEL, ASTM A312-57
ST7512	STEEL, ASTM A511, GRADE MT304
STC757	STEEL, ASTM A511, GRADE MT316
STC724	STEEL, ASTM A511-64
STC758	STEEL, ASTM A519, GRADE 4130
ST1052	STEEL, CARBON
STB000	STEEL, CORROSION RESISTING

REPLY CODE	REPLY (AD09)
SC0035	STEEL, CORROSION RESISTING, AMS 5643
STA762	STEEL, CORROSION RESISTING, 31009, TELETYPE CORP
STC771	STEEL, CVA1-404, VOUGHT AERONAUTICS DIV, LTV AEROSPACE CORP
STC740	STEEL, DMS 1578, MCDONNELL DOUGLAS CORP, MCDONNELL AIRCRAFT CO
ST9499	STEEL, FED STD 66, AISI C1117
ST9633	STEEL, FED STD 66, AISI C1118
ST1310	STEEL, FED STD 66, AISI/SAE 1137
ST1979	STEEL, FED STD 66, AISI TS8125
ST1617	STEEL, FED STD 66, AISI 304/SAE 30304
ST2178	STEEL, FED STD 66, AISI 1075
ST1742	STEEL, FED STD 66, COMP C1211
ST1817	STEEL, FED STD 66, COMP 302
ST1818	STEEL, FED STD 66, COMP 303
ST2526	STEEL, FED STD 66, COMP 304
ST1819	STEEL, FED STD 66, COMP 321
STC719	STEEL, K144241, WORTHINGTON-CEI INC, BUFFALO OPERATION
STC736	STEEL, LAC 1-587, CLASS 1A, TYPE 347, LOCKHEED AIRCRAFT CORP
STC718	STEEL, LAC 1-589, COMP 321, COND ANNEALED, LOCKHEED-GEORGIA CO
ST3164	STEEL, MIL-F-5509
ST1804	STEEL, MIL-S-5626
ST7577	STEEL, MIL-S-6721, CLASS 347
STC620	STEEL, MIL-S-6721, COMP 321
ST1840	STEEL, MIL-S-6758
STC745	STEEL, MIL-S-7420, COND F2
STB212	STEEL, MIL-S-11486, COMP 1000
ST7091	STEEL, MIL-T-3520
ST2372	STEEL, MIL-T-3520, COMP 1010
STB839	STEEL, MIL-T-3520, COMP 1015
STC474	STEEL, MIL-T-3520, COMP 1020
STC476	STEEL, MIL-T-3520, COMP 1025
STC475	STEEL, MIL-T-3520, TYPE 1
STC729	STEEL, MIL-T-3520, TYPE 1, COMP 1010
STC730	STEEL, MIL-T-3520, TYPE 1, COMP 1015
STC665	STEEL, MIL-T-3520, TYPE 1, COMP 1025
STC472	STEEL, MIL-T-3520, TYPE 1, COND COLD DRAWN, ANNEALED
STC726	STEEL, MIL-T-3520, TYPE 1, COND HEAT TREATED
STC661	STEEL, MIL-T-3520, TYPE 2
STC666	STEEL, MIL-T-3520, TYPE 2, COMP 1010
STC667	STEEL, MIL-T-3520, TYPE 2, COMP 1015
STC675	STEEL, MIL-T-3520, TYPE 2, COMP 1020
STB866	STEEL, MIL-T-3520, TYPE 3
STC662	STEEL, MIL-T-3520, TYPE 3, COMP 1010
	Steel, MIL-T-3520, TYPE 3, Comp 1010 to 1025-Invalid (use Reply Code STC662 or STC663 or STC664 or STD765)
STC663	STEEL, MIL-T-3520, TYPE 3, COMP 1015
STC664	STEEL, MIL-T-3520, TYPE 3, COMP 1020

REPLY CODE	REPLY (AD09)
STC473	STEEL, MIL-T-3520, TYPE 3, COND COLD DRAWN, ANNEALED
	Steel, MIL-T-3520, Type 3-Invalid (use Reply Code STB866)
STD765	STEEL, MIL-T-3520, TYPE 3, OCMP 1025
ST8737	STEEL, MIL-T-5695
	Steel, MIL-T-5695, Comp 304-Invalid (use Reply Code ST8737)
STC680	STEEL, MIL-T-5695, COND 1/4H
ST3659	STEEL, MIL-T-6736, TYPE 1, COND A
ST8607	STEEL, MIL-T-6737
ST7079	STEEL, MIL-T-6845
	Steel, MIL-T-6845, Amend 5-Invalid (use Reply Code ST7079)
	Steel, MIL-T-6845, Amet383-D21989 ND-Invalid (use Reply Code ST7079)
	Steel, MIL-T-6845, Cold Drawn-Invalid (use Reply Code ST7079)
ST7596	STEEL, MIL-T-6845, TYPE 304
STA742	STEEL, MIL-T-6845, TYPE 304, COND 1/8H
STC681	STEEL, MIL-T-6846
ST7085	STEEL, MIL-T-8504
ST9956	STEEL, MIL-T-8504, COMP 304
	Steel, MIL-T-8504, Seamless Type-Invalid (use Reply Code ST9956)
STC668	STEEL, MIL-T-8504, TYPE 1
	Steel, MIL-T-8504, Type 18-8 Annealed-Invalid (use Reply Code ST9956)
	Steel, MIL-T-8504, Type 18-8-Invalid (use Reply Code ST9956)
ST8062	STEEL, MIL-T-8506
ST7077	STEEL, MIL-T-8506, TYPE 1
	Steel, MIL-T-8506, Type 1 Seamless-Invalid (use Reply Code ST7077)
STC483	STEEL, MIL-T-8506, TYPE 2
ST7080	STEEL, MIL-T-8606
STC658	STEEL, MIL-T-8606, COMP 321
ST8033	STEEL, MIL-T-8606, COMP 347
ST8993	STEEL, MIL-T-8606, TYPE 1
STB810	STEEL, MIL-T-8606, TYPE 1, COMP G347
ST7089	STEEL, MIL-T-8606, TYPE 1, COMP 321
STA661	STEEL, MIL-T-8606, TYPE 1, COMP 347
ST8609	STEEL, MIL-T-8606, TYPE 2
ST7081	STEEL, MIL-T-8808
ST7507	STEEL, MIL-T-8808, COMP 321
ST1805	STEEL, MIL-T-8808, COMP 321, TYPE 1
ST7506	STEEL, MIL-T-8808, COMP 347
STC660	STEEL, MIL-T-8808, COMP 347, TYPE 1
STC659	STEEL, MIL-T-8808, TYPE 1
STC484	STEEL, MIL-T-8808, TYPE 2
ST7691	STEEL, MIL-T-8808, TYPE 2, COMP 321
STC485	STEEL, MIL-T-8808, TYPE 2, COMP 347
STA743	STEEL, MIL-T-20157, TYPE E
STA749	STEEL, MIL-W-21081, TYPE 1, COND A-CANCELED
STC768	STEEL, MMS296, COMP 304, MCDONNELL DOUGLAS CORP, MCDONNELL AIRCRAFT CO
STC692	STEEL, MMS296, MCDONNELL DOUGLAS CORP, MCDONNELL AIRCRAFT CO

REPLY CODE	REPLY (AD09)
STC769	STEEL, MMS296, TYPE 18-8, MCDONNELL DOUGLAS CORP
ST2512	STEEL, QQ-S-633-CANCELED
ST1849	STEEL, QQ-S-633, COMP C1112-CANCELED
ST2781	STEEL, QQ-S-633, FSB1113-CANCELED
ST2566	STEEL, QQ-S-633, FS1010-CANCELED
ST1557	STEEL, QQ-S-637, COMP 1137
ST1558	STEEL, QQ-S-637, COMP 1141
ST8653	STEEL, QQ-S-00643-CANCELED
ST8654	STEEL, QQ-S-00643, COMP FS1000-CANCELED
	Steel, QQ-S-00643, FS1010 to FS1025-Invalid (use Reply Code ST8653)
	Steel, QQ-S-00643, Type 1, Class A, FS1000-Invalid (use Reply Code ST8654)
	Steel, QQ-S-00643, Type 1-Invalid (use Reply Code ST8653)
ST3820	STEEL, QQ-S-643, COMP 1025-CANCELED
ST2032	STEEL, QQ-S-763
ST1649	STEEL, QQ-S-763, CLASS 304
ST1654	STEEL, QQ-S-763, CLASS 316
ST1656	STEEL, QQ-S-763, CLASS 321
ST2369	STEEL, QQ-S-763, CLASS 321, COND A
ST2370	STEEL, QQ-S-763, CLASS 347, COND A
ST1769	STEEL, QQ-S-764, TYPE 303MA-CANCELED
ST7071	STEEL, QQ-T-830-CANCELED
STB036	STEEL, QQ-T-830, COMP MTX1015-CANCELED
ST8618	STEEL, QQ-T-830, COMP MTX1020-CANCELED
ST8620	STEEL, QQ-T-830, COMP MT1010-CANCELED
ST7017	STEEL, QQ-T-830, COMP MT1010 THRU MTX1020-CANCELED
ST8621	STEEL, QQ-T-830, COMP MT1015-CANCELED
ST8622	STEEL, QQ-T-830, COMP MT1020-CANCELED
STC698	STEEL, QQ-T-830, COMP 1020-CANCELED
STB277	STEEL, QQ-T-830, COMP 1022-CANCELED
ST8624	STEEL, QQ-T-830, COMP 1025-CANCELED
STB249	STEEL, QQ-T-830, COMP 1025, COND CD-CANCELED
ST2774	STEEL, QQ-T-830, MT1010 TO MTX1020-CANCELED
ST6559	STEEL, SAE 1010
ST6561	STEEL, SAE 1015
ST6015	STEEL, SAE 1020
ST6709	STEEL, SAE 8620
ST5099	STEEL, SAE 30304
STD000	STEEL, STAINLESS
ST7058	STEEL, STAINLESS, GRADE A191-302, STACKPOLE CARBON CO
	Steel, WW-T-858, Comp 18-8-Invalid
	Steel, WW-T-858 /Superseded/ Comp -T-1-Invalid
STC727	STEEL, 123, GENERAL MOTORS CORP
STC728	STEEL, 124M, GENERAL MOTORS CORP
STC738	STEEL, 30039, CUMMINS ENGINE CO
SN0000	TIN
TTA000	TITANIUM
TT0006	TITANIUM ALLOY, AMS 4941

REPLY CODE	REPLY (AD09)
TT0128	TITANIUM ALLOY, AMS 4965
TT0193	TITANIUM ALLOY, TI-3AL-2.5V
TT0121	TITANIUM, AMS 4942
TT0103	TITANIUM, GM3107, GRUMMAN AEROSPACE CORP
WE0000	WIRE
WEAH00	WIRE, SPIRAL BRASS
YA0000	YARN

Table 2 - SURFACE TREATMENT

SURFACE TREATMENT

REPLY CODE	REPLY (AD09)
AN0000	ANODIZED
BL0000	BLUED
CD0000	CADMIUM
CDR000	CADMIUM PLATED
CN0000	CHROMATE
CR0000	CHROMIUM
CU0000	COPPER
EN0000	ENAMEL
ENE000	ENAMEL, BAKED
GB0000	GALVANIZED
LQ0000	LACQUER
LQD000	LACQUER BLACK
PB0000	LEAD
PBE000	LEAD TIN ALLOY
XX0000	OXIDE
PNH000	PAINT, OLIVE DRAB
PN0000	PAINTED
BLA000	PARKERIZED
PS0000	PASSIVATED
PHH000	PHOSPHATE COATED
SNF000	TIN PLATED
TDA000	TINNED
ZN0000	ZINC
ZNA000	ZINC CHROMATE
ZNAAA0	ZINC CHROMATE, ANODIZED
ZNS000	ZINC COATED
ZNX000	ZINC PHOSPHATE

Table 3 - NONDEFINITIVE SPEC/STD DATA

NONDEFINITIVE SPEC/STD DATA

REPLY CODE	REPLY (AD08)
AL	ALLOY

REPLY CODE	REPLY (AD08)
AN	ANNEX
AP	APPENDIX
AC	APPLICABILITY CLASS
AR	ARRANGEMENT
AS	ASSEMBLY
AB	ASSORTMENT
BX	BOX
CY	CAPACITY
CA	CASE
CT	CATEGORY
CL	CLASS
CE	CODE
CR	COLOR
CC	COMBINATION CODE
CN	COMPONENT
CP	COMPOSITION
CM	COMPOUND
CD	CONDITION
CS	CONSTRUCTION
DE	DESIGN
DG	DESIGNATOR
DW	DRAWING NUMBER
EG	EDGE
EN	END
FY	FAMILY
FG	FIGURE
FN	FINISH
FM	FORM
FA	FORMULA
GR	GRADE
GP	GROUP
BA	IMAGE COLOR
NS	INSERT
TM	ITEM
KD	KIND
KT	KIT
LG	LENGTH
LT	LIMIT
MK	MARK
AA	MARKER
ML	MATERIAL
BB	MAXIMUM DENSITY
MH	MESH
ME	METHOD
BC	MINIMUM DENSITY
MD	MODEL
MT	MOUNTING
NR	NUMBER

REPLY CODE	REPLY (AD08)
PT	PART
PN	PATTERN
PC	PHYSICAL CONDITION
PS	PIECE
PL	PLAN
PR	POINT
QA	QUALITY
RN	RANGE
RT	RATING
RF	REFERENCE NUMBER
SC	SCHEDULE
SB	SECTION
SL	SELECTION
SE	SERIES
SV	SERVICE
SX	SET
SA	SHADE
SH	SHAPE
SG	SHEET
SZ	SIZE
PZ	SPECIES
SQ	SPECIFICATION SHEET
SD	SPEED
ST	STYLE
SS	SUBCLASS
SF	SUBFORM
SP	SUBTYPE
SN	SURFACE CONDITION
SY	SYMBOL
SM	SYSTEM
TB	TABLE
TN	TANNAGE
TP	TEMPER
TX	TEXTURE
TK	THICKNESS
TT	TREATMENT
TR	TRIM
TY	TYPE
YN	UNIT
VA	VARIETY
WT	WEIGHT
WD	WIDTH

Table 4 - THREAD SERIES

THREAD SERIES

REPLY CODE	REPLY (AH06)

REPLY CODE	REPLY (AH06)
BF	BSF
FB	BSP.F
ZP	BSP.L
PL	BSP.PL
BS	BSP.TR EXT
BR	BSP.TR INT
SM	ISO M
SS	ISO S
NG	NGO
GS	NGS
GT	NGT
SF	NPSF
SH	NPSH
PS	NPSI
PM	NPSM
NP	NPT
NT	NPTF
TS	NPTS
UN	UN
FC	UN-4
FD	UN-6
FE	UN-8
FF	UN-12
FG	UN-16
NC	UNC
NE	UNEF
NF	UNF
NJ	UNJ
JC	UNJC
JE	UNJEF
JF	UNJF
JS	UNJS
NS	UNS

Table 5 - IDENTIFIED SECONDARY ADDRESS CODING - LOCATION

IDENTIFIED SECONDARY ADDRESS CODING - LOCATION

ISAC	LOCATION (0036)
1X	SINGLE END
1Z	ALL ENDS
1A	FIRST END
1B	SECOND END
1C	THIRD END
1D	FOURTH END
1E	FIFTH END
1F	SIXTH END

Reference Drawing Groups

REFERENCE DRAWING GROUP A Tables
PIPE AND TUBE END STYLES

INDEX OF MASTER REQUIREMENT CODES

Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., AAVZJAA3.125*; AAVZJLA79.4*; AAVZJAB3.120$$JAC3.130*)

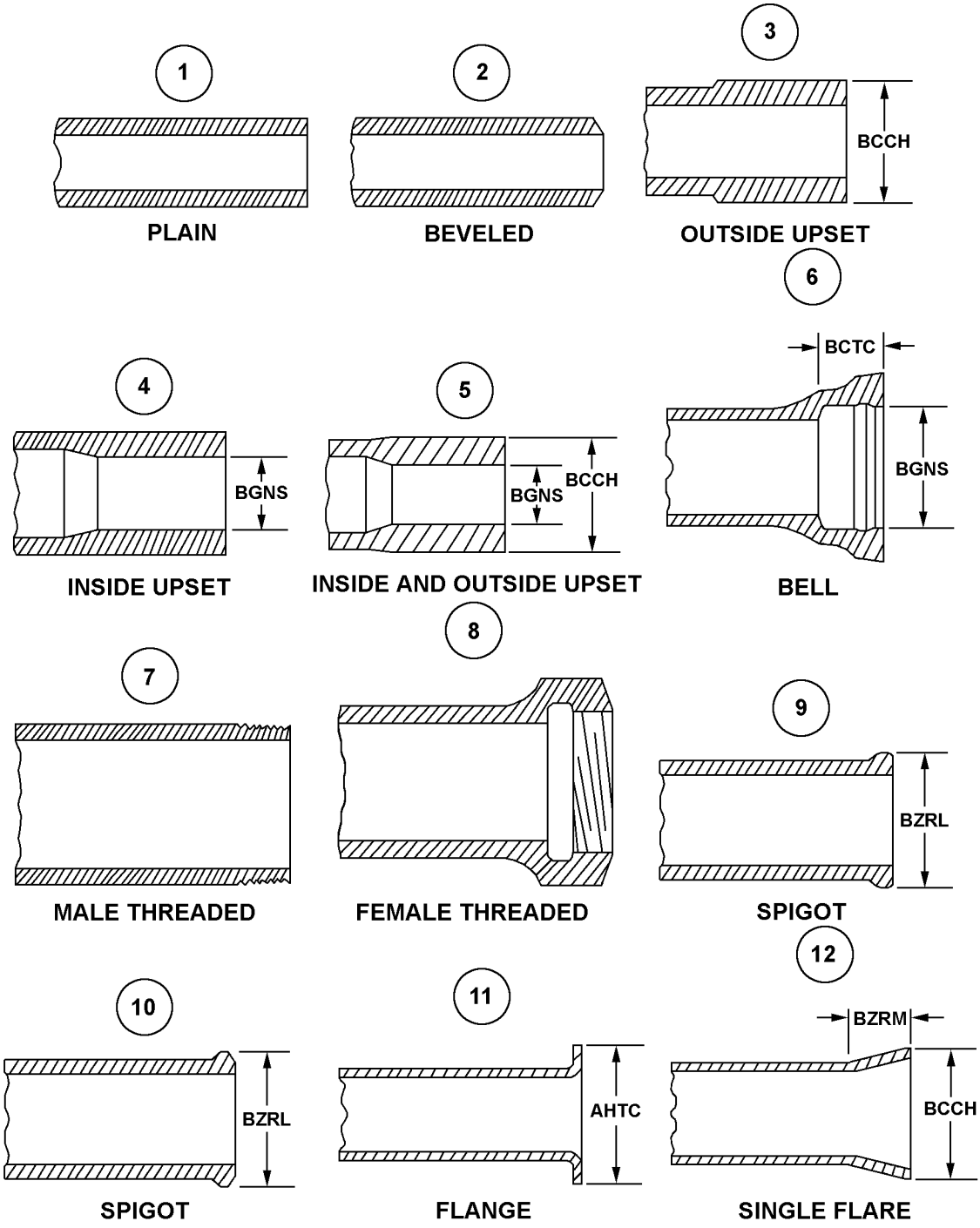
REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

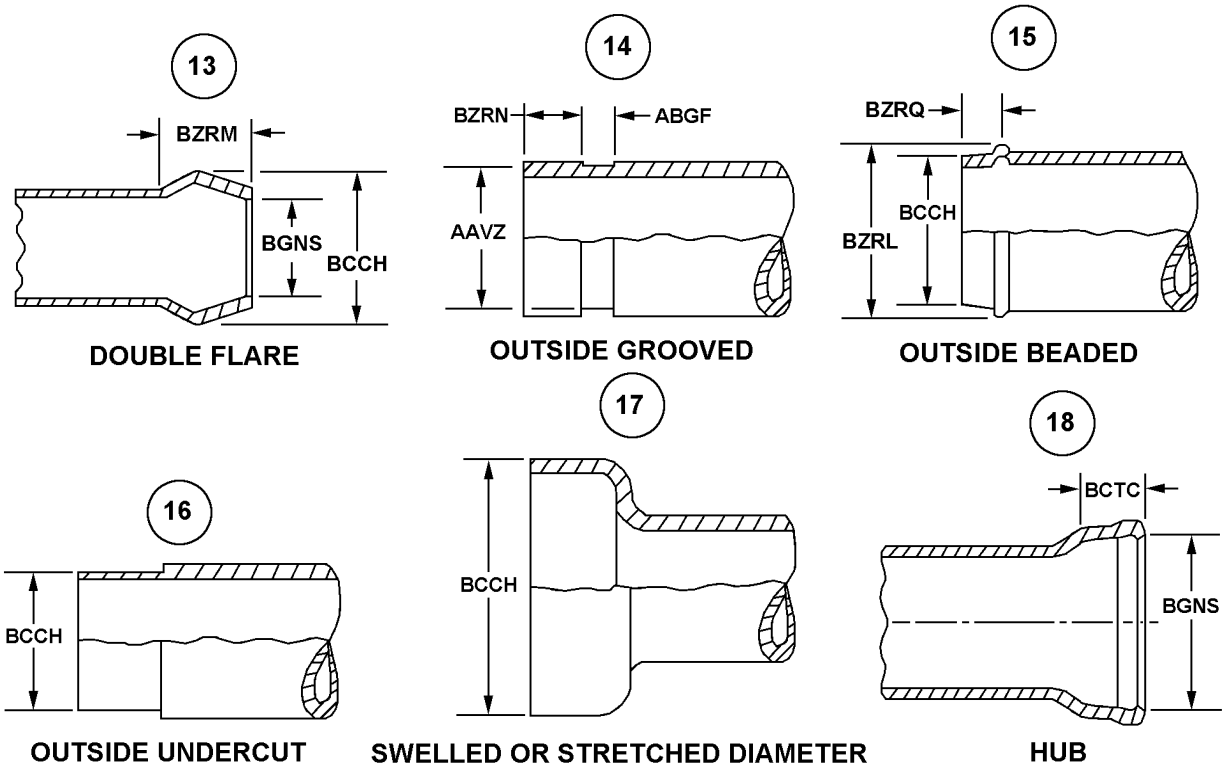
REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

MRC	Mode Code	Name of Dimension
AAVZ	J	GROOVE DIAMETER
ABGF	J	GROOVE WIDTH
AHTC	J	FLANGE OUTSIDE DIAMETER
BCCH	J	END OUTSIDE DIAMETER
BCTC	J	TELESCOPE LENGTH
BGNS	J	END CONNECTION INSIDE DIAMETER
BZRL	J	BEAD OUTSIDE DIAMETER
BZRM	J	FLARE LENGTH
BZRN	J	LENGTH FROM GROOVE/BEAD TO END
BZRQ	J	BEAD CENTER TO END LENGTH

REFERENCE DRAWING GROUP A

PIPE AND TUBE END STYLES




13
BZRM
BGNS
BCCH
DOUBLE FLARE
14
BZRN
ABGF
AAVZ
OUTSIDE GROOVED
15
BZRQ
BCCH
BZRL
OUTSIDE BEADED
16
BCCH
OUTSIDE UNDERCUT
17
BCCH
SWELLED OR STRETCHED DIAMETER
18
BCTC
BGNS
HUB

REFERENCE DRAWING GROUP B Tables
END CONNECTION STYLES

INDEX OF PRIORITIES

Priority sequence of ends to be followed in answering end data questions.

1. Largest threaded female tube connection (if no threaded female tube connection proceed to step 2).

2. Largest unthreaded female tube connection (if no unthreaded female tube connection proceed to step 3).

3. Largest threaded male tube connection (if no threaded male tube connection proceed to step 4).

4. Largest unthreaded male tube connection (if no unthreaded male tube connection proceed to step 5).

5. Largest threaded female pipe connection (if no threaded female pipe connection proceed to step 6).

6. Largest unthreaded female pipe connection (if no unthreaded female pipe connection proceed to step 7).

7. Largest threaded male pipe connection (if no threaded male pipe connection proceed to step 8).

8. Largest unthreaded male pipe connection (if no unthreaded male pipe connection proceed to step 9).

9. Largest recessed flange connection (if no recessed flange connection proceed to step 10).

10. Largest raised face flange connection (if no raised face flange connection proceed to step 11).

11. Largest plain face flange connection (if not plain face flange connection proceed to step 12).

12. Largest butt weld connection.

13. Largest male hose connection.

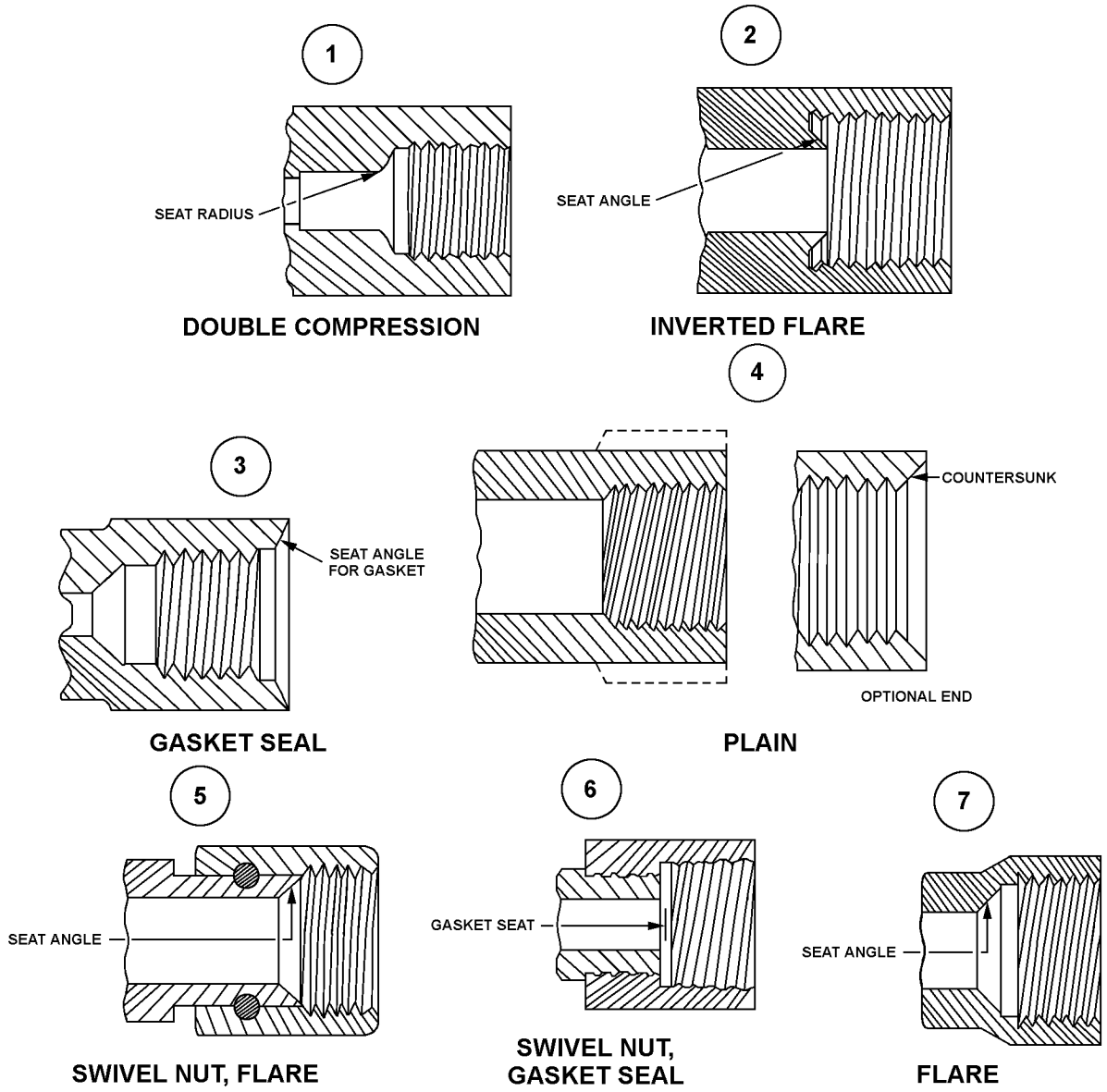
14. Male and female threaded end connections.

15. Miscellaneous end connections (includes quick acting type).

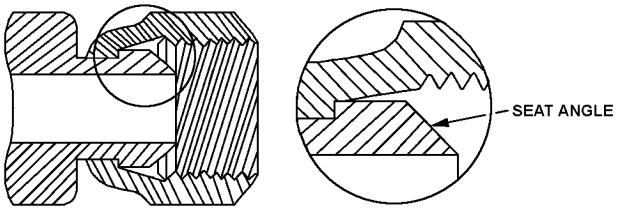
REFERENCE DRAWING GROUP B

END CONNECTION STYLES

THREADED INTERNAL

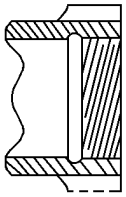


8



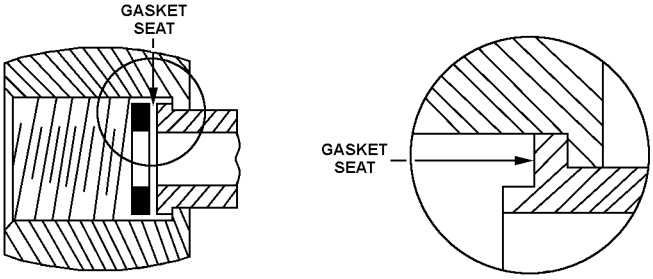
SWIVEL NUT, INVERTED FLARE

9



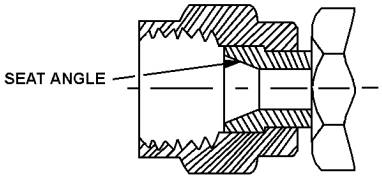
DRAINAGE

10



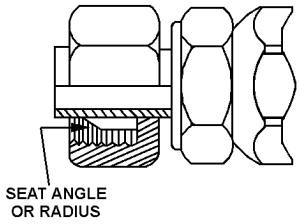
SWIVEL NUT, GASKET SEAL

11



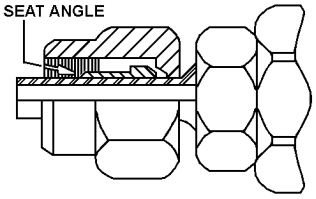
SWIVEL NUT, FLARED

12



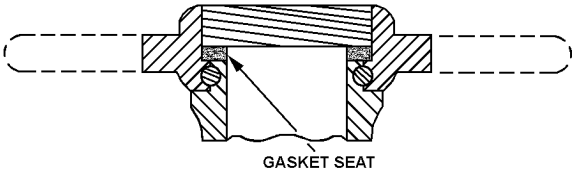
SWIVEL NUT WITH
COMPRESSION SLEEVE

13



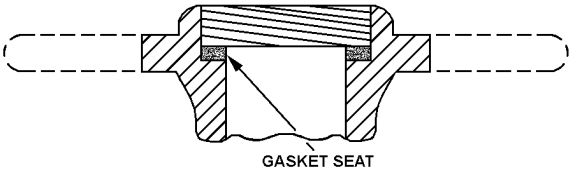
SWIVEL NUT WITH
LOOSE OR INTEGRAL
CLINCH SLEEVE

14



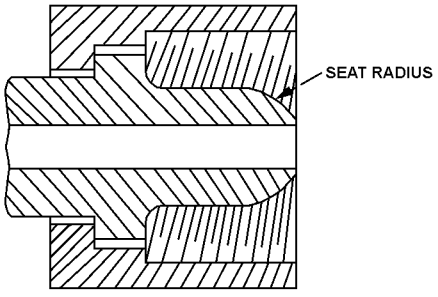
GASKET SEAL

15

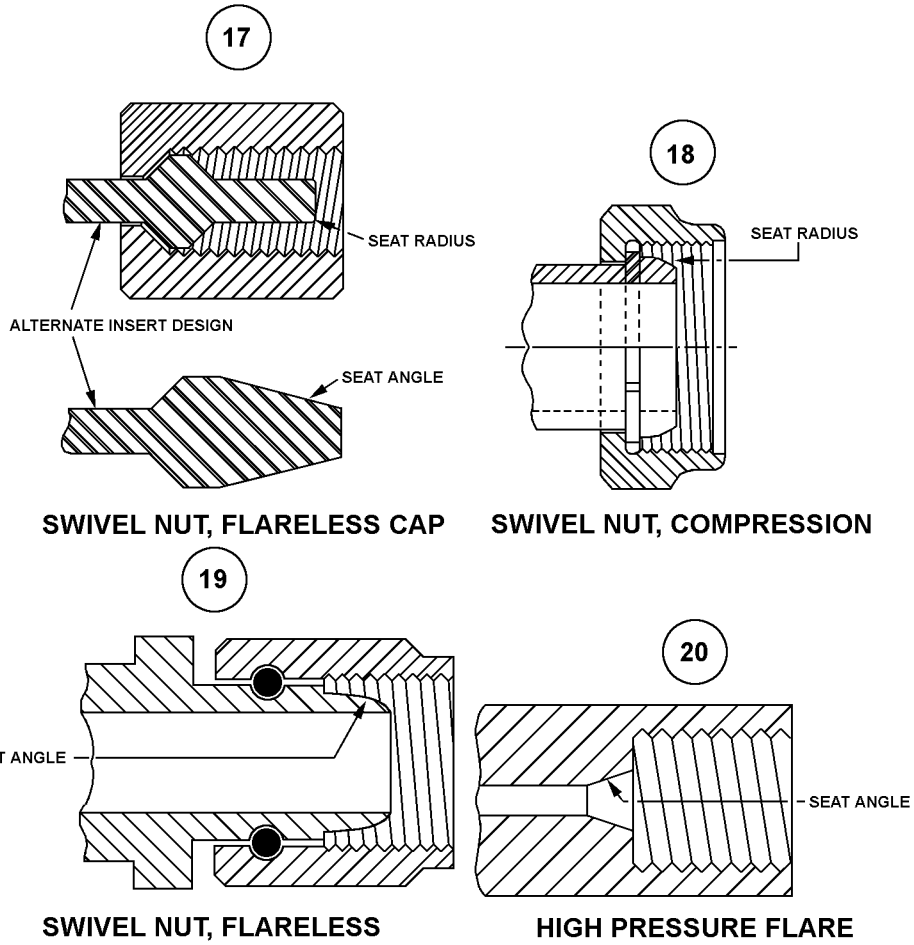


SWIVEL NUT, GASKET SEAL

16

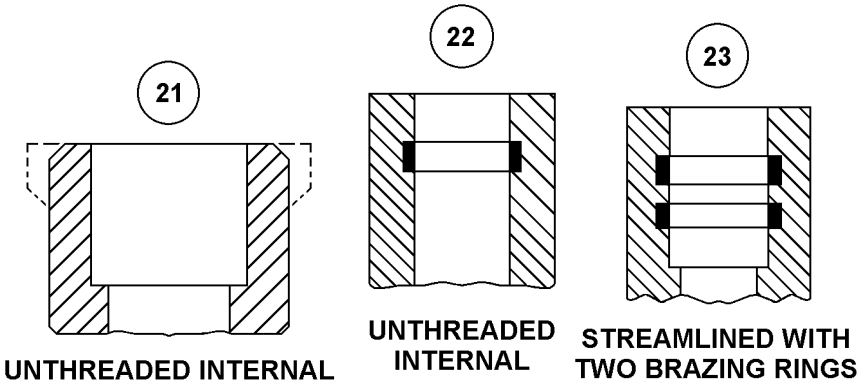


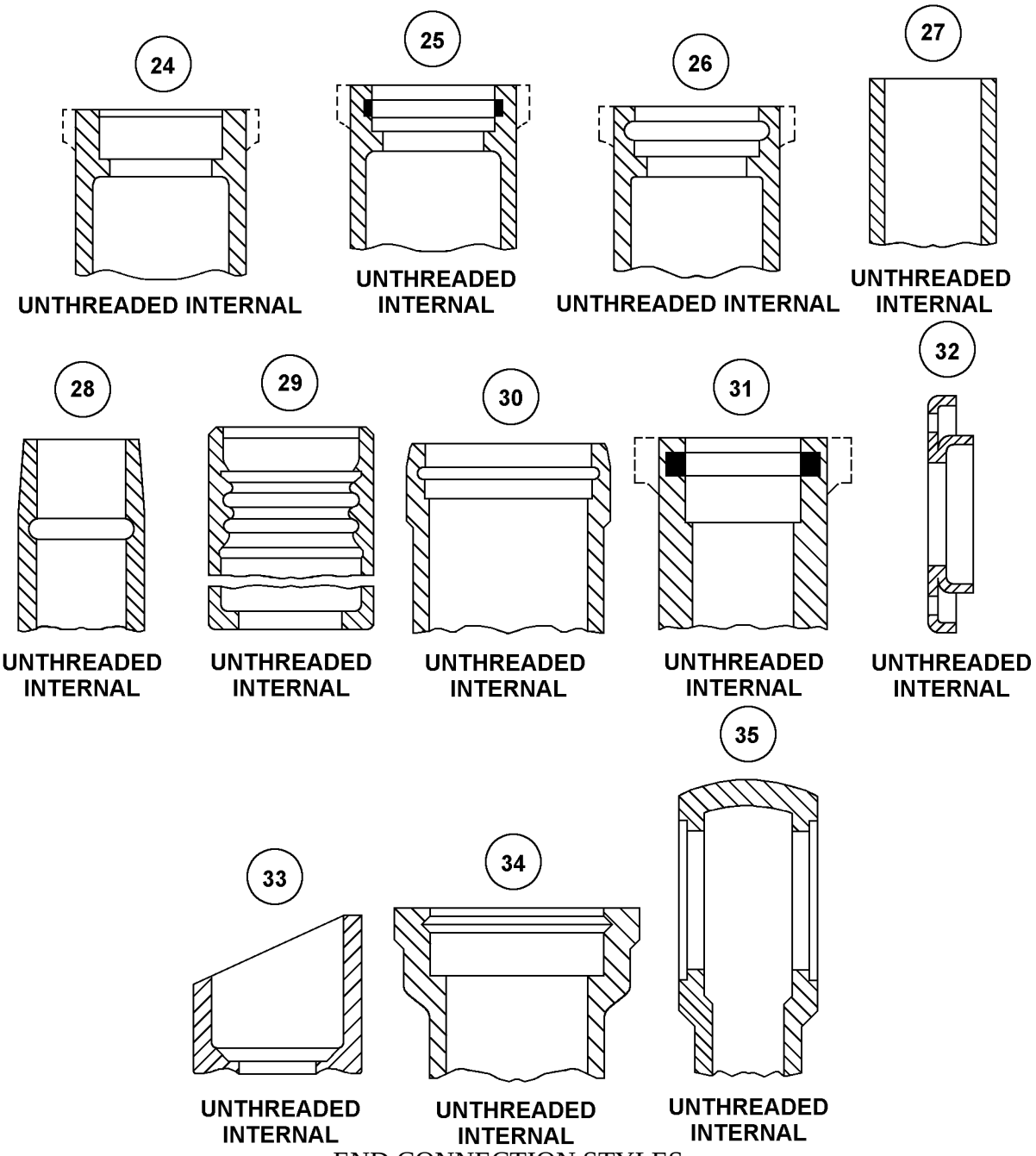
SWIVEL NUT, GAS



END CONNECTION STYLES

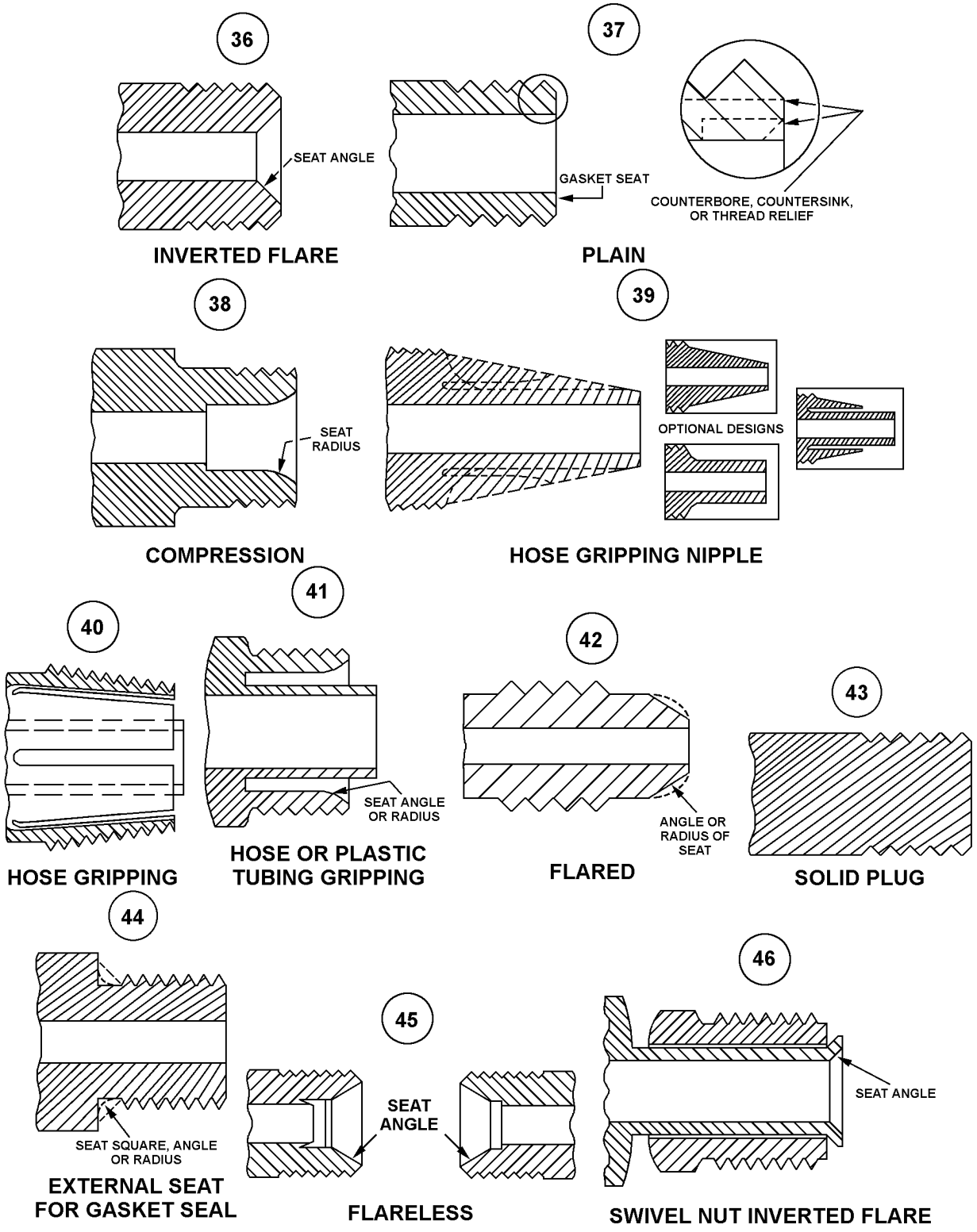
UNTHREADED INTERNAL

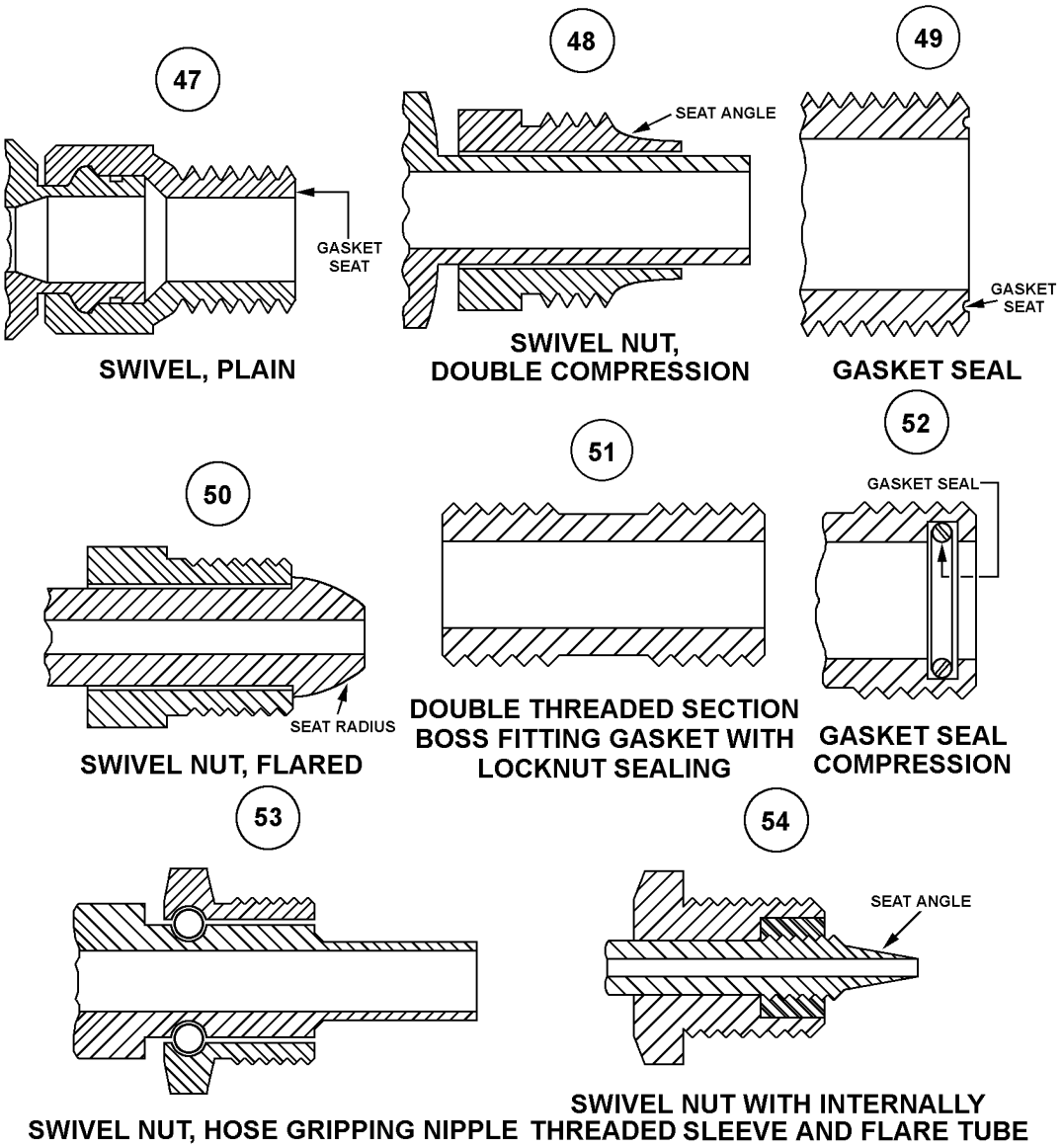




END CONNECTION STYLES

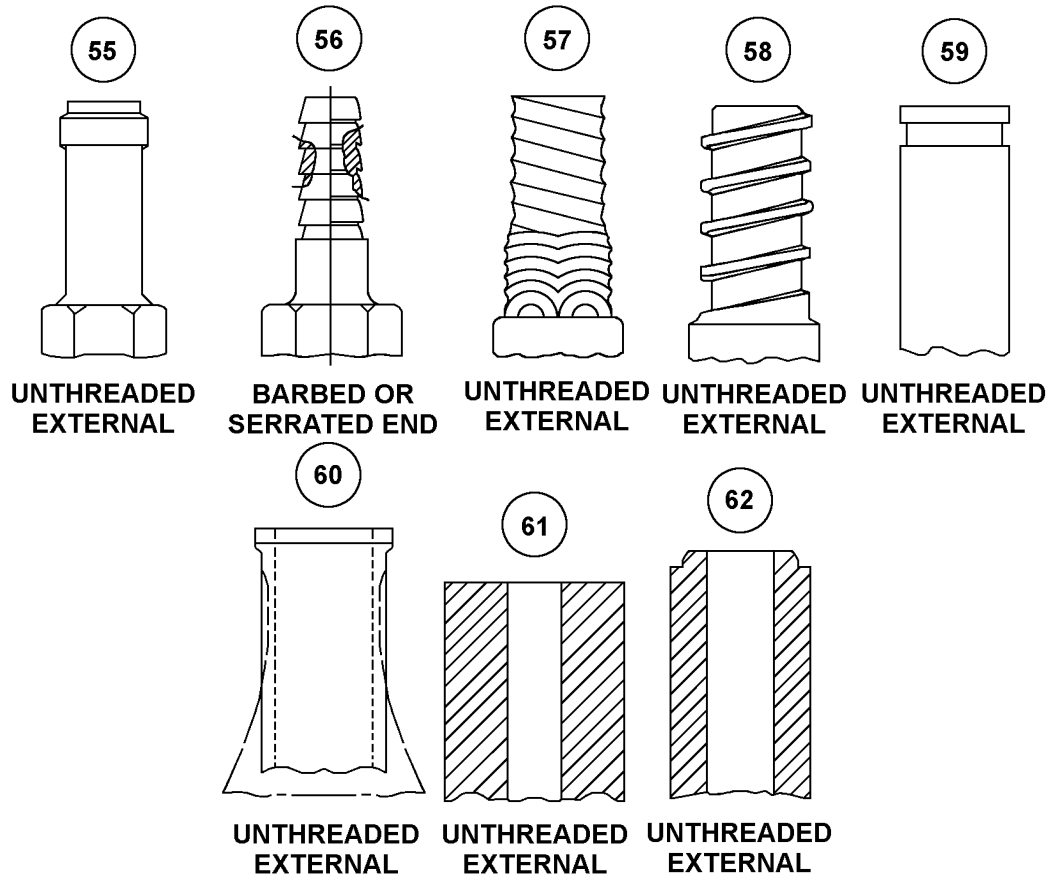
THREADED EXTERNAL


36
SEAT ANGLE
INVERTED FLARE
37
GASKET SEAT
COUNTERBORE, COUNTERSINK, OR THREAD RELIEF
PLAIN
38
SEAT RADIUS
COMPRESSION
39
OPTIONAL DESIGNS
HOSE GRIPPING NIPPLE
40
HOSE GRIPPING
41
SEAT ANGLE OR RADIUS
HOSE OR PLASTIC TUBING GRIPPING
42
ANGLE OR RADIUS OF SEAT
FLARED
43
SOLID PLUG
44
SEAT SQUARE, ANGLE OR RADIUS
EXTERNAL SEAT FOR GASKET SEAL
45
SEAT ANGLE
FLARELESS
46
SEAT ANGLE
SWIVEL NUT INVERTED FLARE



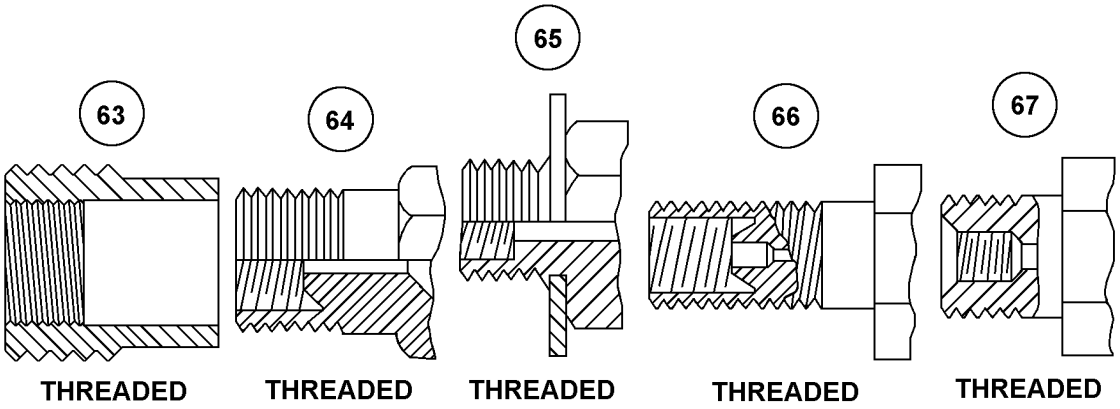
END CONNECTION STYLES

UNTHREADED EXTERNAL



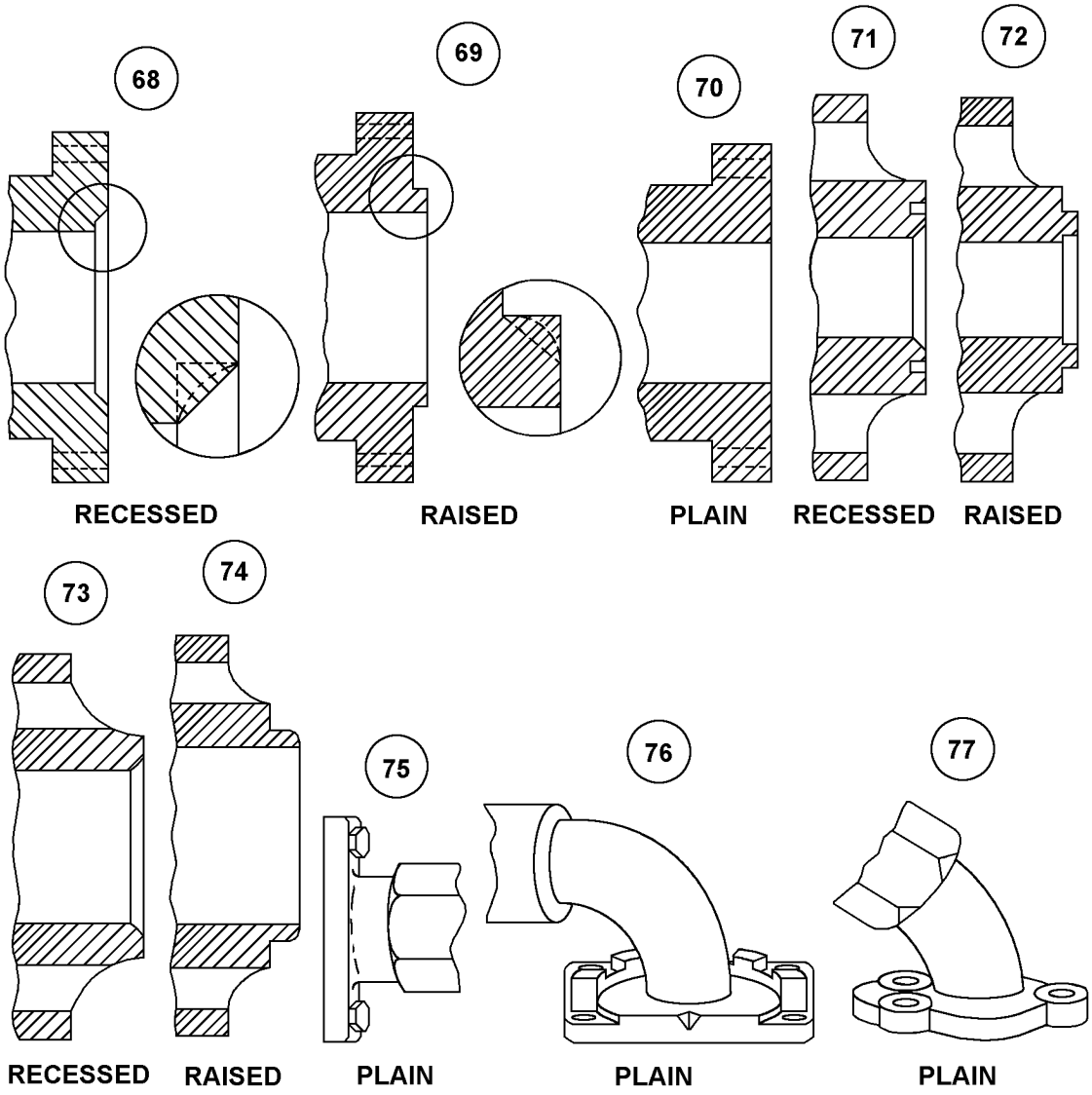
END CONNECTION STYLES

THREADED INTERNAL AND EXTERNAL



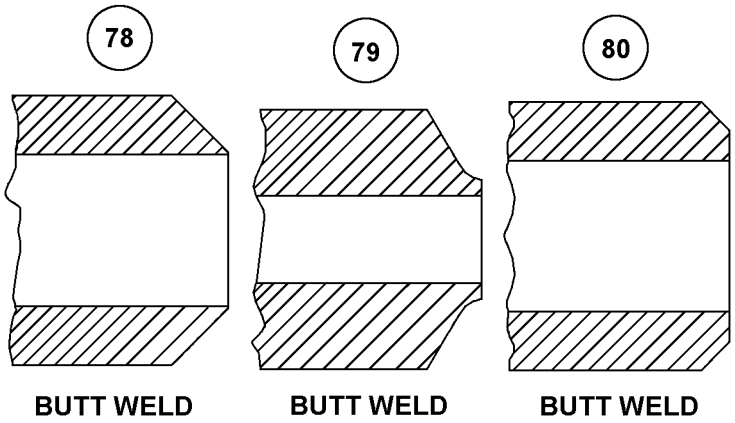
END CONNECTION STYLES

FLANGED



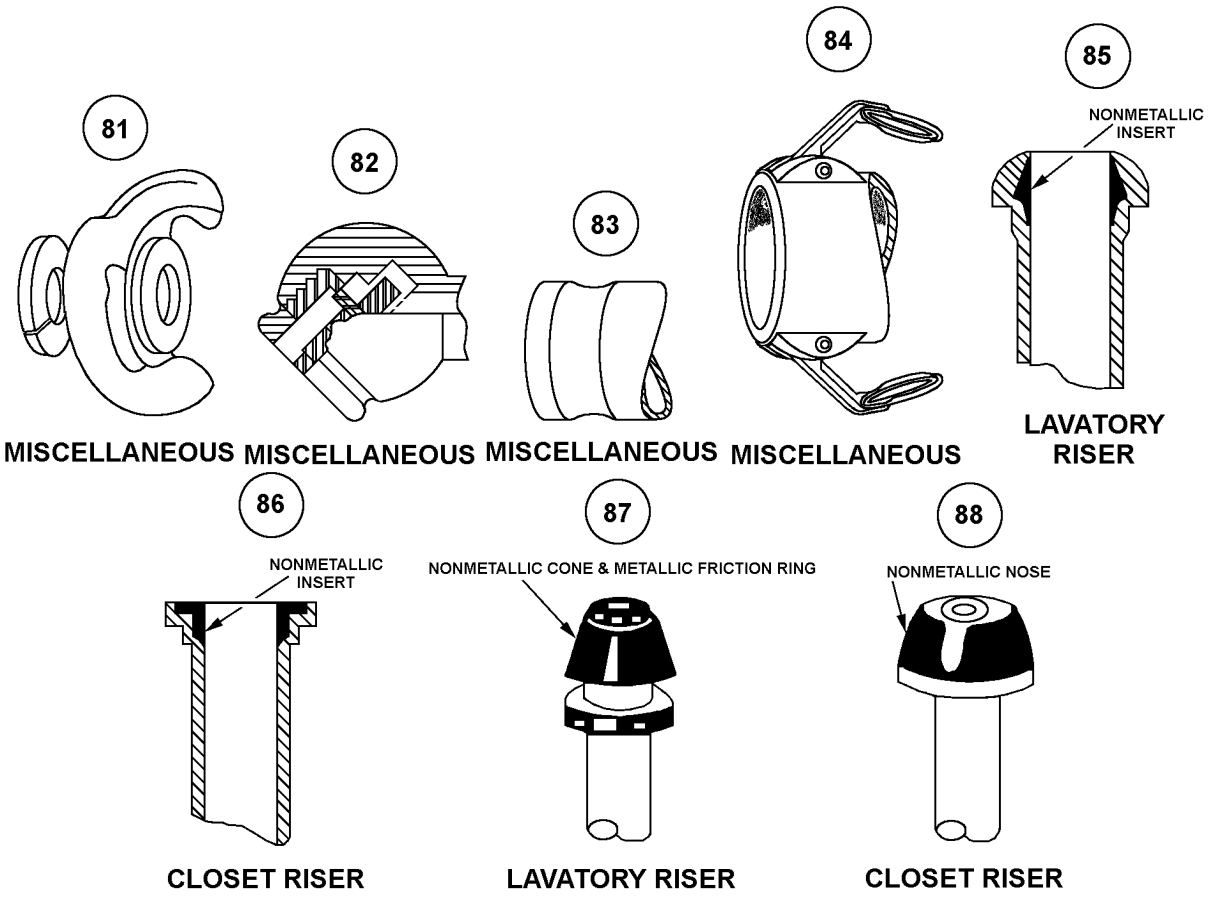
END CONNECTION STYLES

BUTT WELD



END CONNECTION STYLES

MISCELLANEOUS



REFERENCE DRAWING GROUP C Tables
PREFORMED HOSE

INDEX OF MASTER REQUIREMENT CODES

Reply Instructions: Enter the applicable Reply Codes from Tables 1 and 2 below, followed by the numeric value. (e.g., ABNZJAA1.500*; ABNZJLA25.5*; ABNZJAB1.125$$JAC2.250*)

REPLY CODE	REPLY (AA05)
A	INCHES
L	MILLIMETERS

REPLY CODE	REPLY (AC20)
A	NOMINAL
B	MINIMUM
C	MAXIMUM

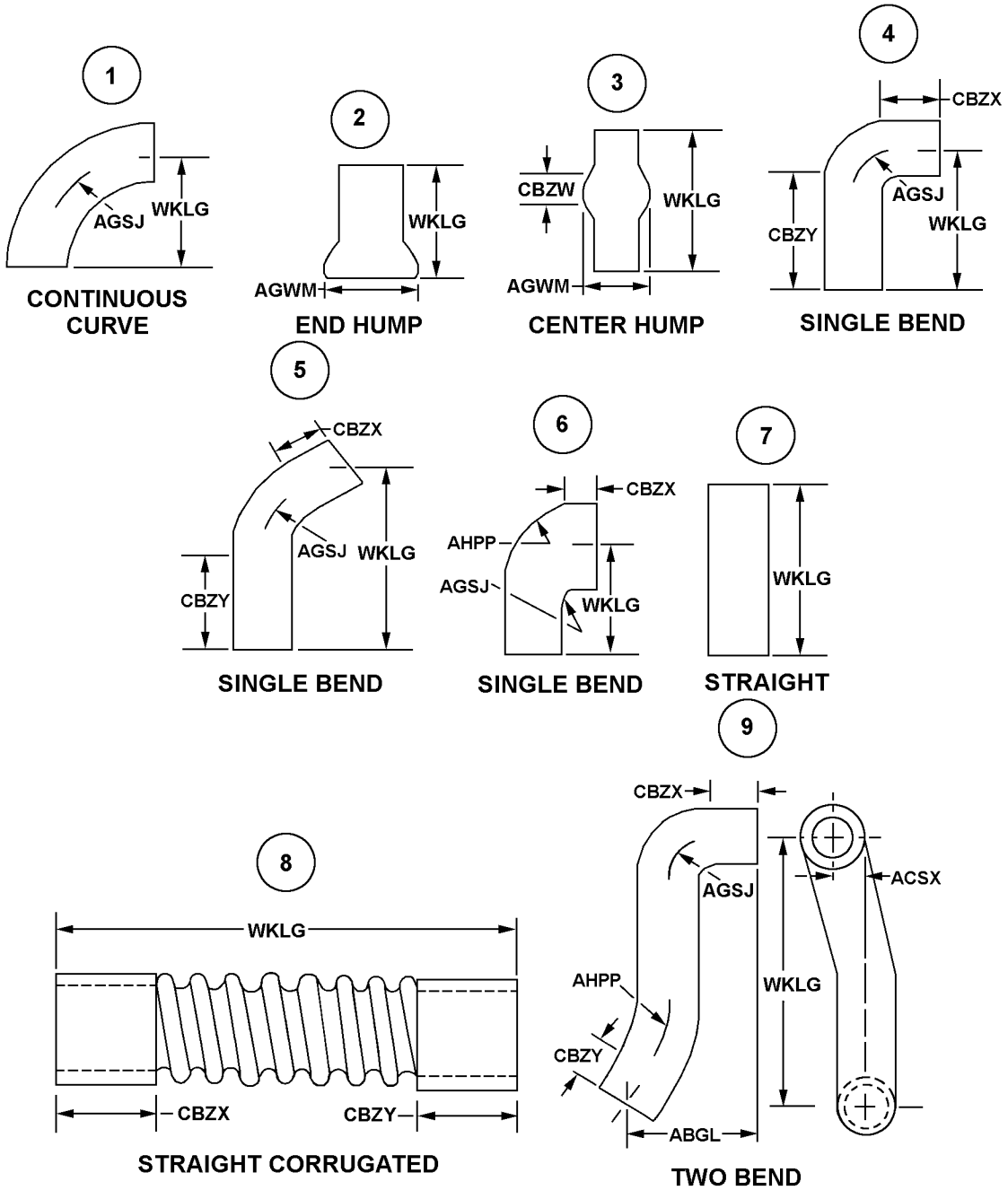
MRC	Mode Code	Name of Dimension
ABGL	J	WIDTH
ABNZ	J	EFFECTIVE LENGTH
ACSX	J	OFFSET DISTANCE
ADQR	J	CENTER TO CENTER DISTANCE
AGSJ	J	BEND RADIUS
AGWM	J	LARGEST OUTSIDE DIAMETER
AHPP	J	OUTER RADIUS
CBZW	J	BULGE WIDTH
CBZX	J	FIRST ARM LENGTH
CBZY	J	SECOND ARM LENGTH

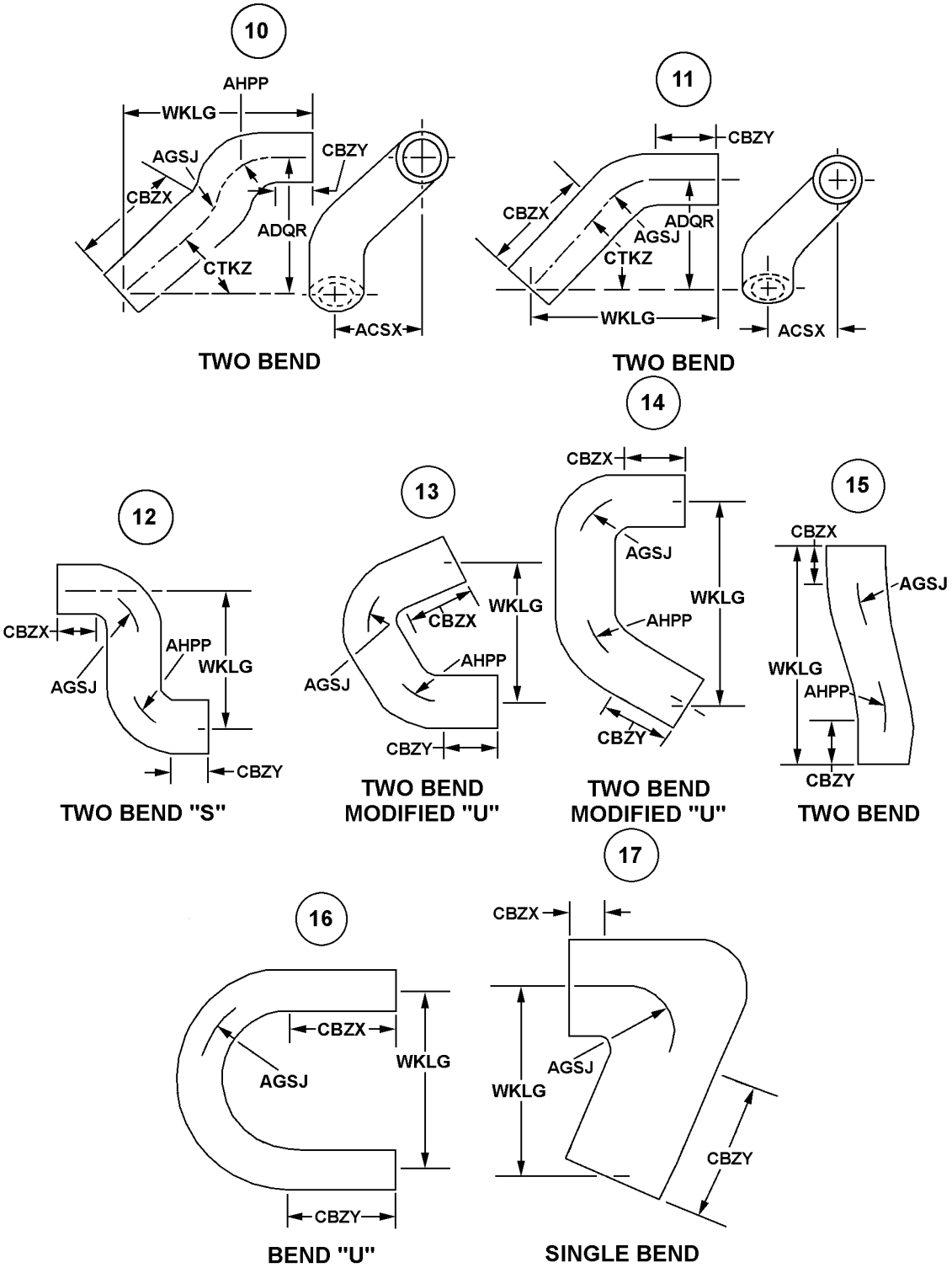
Reply Instructions: Enter the numeric value. (e.g., ADVRB45.0*)

MRC	Mode Code	Name of Dimension
ADVR	B	ANGLE IN DEG

REFERENCE DRAWING GROUP C

PREFORMED HOSE




10
AHPP
WKLG
AGSJ
CBZY
CBZX
ADQR
CTKZ
ACSX
TWO BEND
11
CBZY
CBZX
ADQR
AGSJ
CTKZ
WKLG
ACSX
TWO BEND
12
CBZX
AHPP
WKLG
AGSJ
CBZY
TWO BEND "S"
13
WKLG
CBZX
AHPP
AGSJ
CBZY
TWO BEND
MODIFIED "U"
14
CBZX
AGSJ
WKLG
AHPP
CBZY
TWO BEND
MODIFIED "U"
15
CBZX
AGSJ
WKLG
AHPP
CBZY
TWO BEND
16
CBZX
WKLG
AGSJ
CBZY
BEND "U"
17
CBZX
AGSJ
WKLG
CBZY
SINGLE BEND

Technical Data Tables

MANUFACTURERS STANDARD FOR SHEET STEEL

Standard Gage No.	Equivalent Thickness Inch
4	.2242
5	.2092
6	.1943
7	.1793
8	.1644
9	.1495
10	.1345
11	.1196
12	.1046
13	.0897
14	.0747
15	.0673
16	.0598
17	.0538
18	.0478
19	.0418
20	.0359
21	.0329
22	.0299
23	.0269
24	.0239
25	.0209
26	.0179
27	.0164
28	.0149
29	.0135
30	.0120

INCH TO DECIMAL OF A FOOT CONVERSION CHART

NOTE: For inches, select inches 0 through 11 from left to right top of chart, read decimal equivalent in column directly below.

Fraction of inch	INCHES											
	0	1	2	3	4	5	6	7	8	9	10	11
0	0.000	0.083	0.167	0.250	0.333	0.417	0.500	0.583	0.667	0.750	0.833	0.917
1/16	.005	.089	.172	.255	.339	.422	.505	.589	.672	.755	.839	.922
1/8	.010	.094	.177	.260	.344	.427	.510	.594	.677	.760	.844	.927

3/16	.016	.099	.182	.266	.349	.432	.516	.599	.682	.766	.849	.932
1/4	.021	.104	.188	.271	.354	.438	.521	.604	.688	.771	.854	.938
5/16	.026	.109	.193	.276	.359	.443	.526	.609	.693	.776	.859	.943
3/8	.031	.115	.198	.281	.365	.448	.531	.615	.698	.781	.865	.948
7/16	.037	.120	.203	.287	.370	.453	.537	.620	.703	.787	.870	.953
1/2	.042	.125	.208	.292	.375	.458	.542	.625	.708	.792	.875	.958
9/16	.047	.130	.214	.297	.380	.464	.547	.630	.714	.797	.880	.964
5/8	.052	.135	.219	.302	.385	.469	.552	.635	.719	.802	.885	.969
11/16	.057	.141	.224	.307	.391	.474	.557	.641	.724	.807	.891	.974
3/4	.063	.146	.229	.313	.396	.479	.563	.646	.729	.813	.896	.979
13/16	.068	.151	.234	.318	.401	.484	.568	.651	.734	.818	.901	.984
7/8	.073	.156	.240	.323	.406	.490	.573	.656	.740	.823	.906	.990
15/16	.078	.162	.245	.328	.412	.495	.578	.662	.745	.828	.912	.995

BRASS, COPPER, AND BRONZE DIMENSIONS, WEIGHTS, AND TOLERANCES
BRASS, COPPER, AND BRONZE DIMENSIONS, WEIGHTS, AND TOLERANCES
BRASS, COPPER, AND BRONZE DIMENSIONS, WEIGHTS, AND TOLERANCES

(EXTRACTED FROM COPPER & BRASS RESEARCH ASSOCIATION STANDARDS. TABLES CORRESPOND TO THE NATIONAL BUREAU OF STANDARDS SIMPLIFIED PRACTICE RECOMMENDATIONS R217-46)

	WEIGHT PER FOOT TOLERANCES	WALL THICKNESS TOLERANCE	
STANDARD PIPE SIZE IN INCHES	PLUS AND MINUS	MINUS	PLUS
UP TO 6 INCL	5\%	*5\%	LIMITED ONLY
OVER 6 TO 8 INCL	7\%	*7\%	BY WEIGHT
OVER 8	8\%	*8\%	TOLERANCES

LENGTH TOLERANCES: STANDARD LENGTH 12 FEET PLUS AND MINUS 1/2".

*EXPRESSED TO THE NEAREST 0.001".

NOTE-THESE TOLERANCE SCHEDULES ARE USED BY THE INDUSTRY AS APPLICABLE TO COMMERCIAL MATERIAL, IN THE ABSENCE OF OTHER SPECIFICATION BY THE

STANDARD PIPE SIZE IN INCHES	WEIGHT PER FOOT TOLERANCES	WALL THICKNESS TOLERANCE	
	PLUS AND MINUS	MINUS	PLUS

PURCHASER.

(EXTRACTED FROM COPPER & BRASS RESEARCH ASSOCIATION STANDARDS. TABLES CORRESPOND TO THE NATIONAL BUREAU OF STANDARDS SIMPLIFIED PRACTICE RECOMMENDATIONS R217-46)

STANDARD PIPE SIZE IN INCHES	NOMINAL DIMENSIONS IN INCHES	POUNDS PER FOOT			
OUTSIDE DIAMETER	INSIDE DIAMETER	WALL THICKNESS	RED BRASS	COPPER	
1/8	0.405	0.281	0.062	0.253	0.259
1/4	0.540	0.376	0.082	0.447	0.457
3/8	0.675	0.495	0.092	0.627	0.641
1/2	0.840	0.626	0.107	0.934	0.955
3/4	1.050	0.822	0.114	1.27	1.30
1	1.315	1.063	0.126	1.78	1.82
1-1/4	1.660	1.368	0.146	2.63	2.69
1-1/2	1.900	1.600	0.150	3.13	3.20
2	2.375	2.063	0.156	4.12	4.22
2-1/2	2.875	2.501	0.187	5.99	6.12
3	3.500	3.062	0.219	8.56	8.75
3-1/2	4.000	3.500	0.250	11.2	11.4
4	4.500	4.000	0.250	12.7	12.9
5	5.562	5.062	0.250	15.8	16.2
6	6.625	6.125	0.250	19.0	19.4
8	8.625	8.001	0.312	30.9	31.6
10	10.750	10.020	0.365	45	46.2
12	12.750	12.000	0.375	55.3	56.5

NOTE-ITEMS CONFORMING TO THE ABOVE DIMENSIONS SHALL BE APPLICABLE TO "PIPE"; ALL OTHER DIMENSIONS SHALL BE APPLICABLE TO "TUBE."

(EXTRACTED FROM COPPER & BRASS RESEARCH ASSOCIATION STANDARDS. TABLES CORRESPOND TO THE NATIONAL BUREAU OF STANDARDS SIMPLIFIED PRACTICE RECOMMENDATIONS R217-46)

STANDARD PIPE SIZE IN INCHES	NOMINAL DIMENSIONS IN INCHES	POUNDS PER FOOT		
OUTSIDE DIAMETER	INSIDE DIAMETER	WALL THICKNESS	RED BRASS	COPPER
1/8	0.405	0.205	0.100	0.363	0.371
1/4	0.540	0.294	0.123	0.611	0.625
3/8	0.675	0.421	0.127	0.829	0.847
1/2	0.840	0.542	0.149	1.23	1.25
3/4	1.050	0.736	0.157	1.67	1.71
1	1.315	0.951	0.182	2.46	2.51
1-1/4	1.660	1.272	0.194	3.39	3.46
1-1/2	1.900	1.494	0.203	4.10	4.19
2	2.375	1.933	0.221	5.67	5.80
2-1/2	2.875	2.315	0.280	8.66	8.85
3	3.500	2.892	0.304	11.6	11.8
3-1/2	4.000	3.358	0.321	14.1	14.4
4	4.500	3.818	0.341	16.9	17.3
5	5.562	4.812	0.375	23.2	23.7
6	6.625	5.751	0.437	32.2	32.9
8	8.625	7.625	0.500	48.4	49.5
10	10.750	9.750	0.500	61.1	62.4

NOTE-ITEMS CONFORMING TO THE ABOVE DIMENSIONS SHALL BE APPLICABLE TO "PIPE"; ALL OTHER DIMENSIONS SHALL BE APPLICABLE TO "TUBE."

WELDED AND SEAMLESS CORROSION RESISTING STEEL PIPE WALL DIMENSIONS

NOMINAL PIPE SIZE	OUTSIDE DIAMETER	NOMINAL WALL THICKNESS			
SCHEDULE 5S**	SCHEDULE 10S**	SCHEDULE 40S	SCHEDULE 80S		
1/8	0.405	-	0.049	0.068	0.095
1/4	0.540	-	0.065	0.088	0.119
3/8	0.675	-	0.065	0.091	0.126

1/2	0.840	0.065	0.083	0.109	0.147
3/4	1.050	0.065	0.083	0.113	0.154
1	1.315	0.065	0.109	0.133	0.179
1-1/4	1.660	0.065	0.109	0.140	0.191
1-1/2	1.900	0.065	0.109	0.145	0.200
2	2.375	0.065	0.109	0.154	0.218
2-1/2	2.875	0.083	0.120	0.203	0.276
3	3.500	0.083	0.120	0.216	0.300
3-1/2	4.000	0.083	0.120	0.226	0.318
4	4.500	0.083	0.120	0.237	0.337
5	5.563	0.109	0.134	0.258	0.375
6	6.625	0.109	0.134	0.280	0.432
8	8.625	0.109	0.148	0.322	0.500
10	10.750	0.134	0.165	0.365	0.500*
12	12.750	0.156	0.180	0.375*	0.500*

*THESE DO NOT CONFORM TO ASA B36.10.

**SCHEDULE 5S AND 10S WALL THICKNESS DOES NOT PERMIT THREADING IN ACCORDANCE WITH ASA B2.1.

ALL DIMENSIONS ARE GIVEN IN INCHES. THE DECIMAL THICKNESS LISTED FOR THE RESPECTIVE PIPE SIZES REPRESENT THEIR NOMINAL OR AVERAGE WALL DIMENSIONS.

UNLESS OTHERWISE PROVIDED BY THE SPECIFICATION, THE ACTUAL WALL THICKNESS AT ANY POINT SHALL NOT BE MORE THAN 12.5 PERCENT UNDER THE NOMINAL WALL THICKNESS SHOWN IN THE TABLES. PERMISSIBLE VARIATIONS IN OTHER DIMENSIONS ARE INDICATED IN ASTM SPECIFICATIONS FOR SEAMLESS ALLOY-STEEL PIPE FOR HIGH-TEMPERATURE SERVICE (A 158) AND SEAMLESS AND WELDED AUSTENITIC STAINLESS STEEL PIPE (A 312).

NOTE-ITEMS CONFORMING TO THE

ABOVE DIMENSIONS SHALL BE APPLICABLE TO "PIPE"; ALL OTHER DIMENSIONS SHALL BE APPLICABLE TO "TUBE."

(EXTRACTED FROM AMERICAN STANDARD STAINLESS STEEL PIPE (ANS B36.19-1965), WITH THE PERMISSION OF THE PUBLISHER, THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, 29 W. 39TH ST., NEW YORK 18, N.Y.)

ALUMINUM AND ALUMINUM ALLOY PIPE WALL DIMENSIONS
(EXTRACTED FROM ASTM B-241-49T)

NOMINAL PIPE SIZE	OUTSIDE DIAMETER	NOMINAL WALL THICKNESS	
STANDARD WALL		EXTRA HEAVY WALL	
1/8	0.405	0.068	0.095
1/4	0.540	0.088	0.119
3/8	0.675	0.091	0.126
1/2	0.840	0.109	0.147
3/4	1.050	0.113	0.154
1	1.315	0.133	0.179
1-1/4	1.660	0.140	0.191
1-1/2	1.900	0.145	0.200
2	2.375	0.154	0.218
2-1/2	2.875	0.203	0.276
3	3.500	0.216	0.300
3-1/2	4.000	0.226	0.318
4	4.500	0.237	0.337
5	5.563	0.258	0.375
6	6.625	0.280	0.432
8	8.625	0.277	0.500
8	8.625	0.322	-----
10	10.750	0.279	0.500
10	10.750	0.307	-----
10	10.750	0.365	-----
12	12.750	0.330	0.500

NOTE-ITEMS CONFORMING TO THE ABOVE DIMENSIONS SHALL BE APPLICABLE TO "PIPE"; ALL

NOMINAL PIPE SIZE	OUTSIDE DIAMETER	NOMINAL WALL THICKNESS
STANDARD WALL	EXTRA HEAVY WALL	

OTHER DIMENSIONS SHALL BE APPLICABLE TO "TUBE."

STANDARD FRACTION TO DECIMAL CONVERSION CHART

4ths	8ths	16ths	32nds	64ths	To 3	To 4	4ths	8ths	16ths	32nds	64ths	To 3	To 4
				1/64	.016	.0156					33/64	.516	.5156
			1/32	-----	.031	.0312				17/32	------	.531	.5312
				3/64	.047	.0469					35/64	.547	.5469
		1/16	-----		.062	.0625			9/16	-----	-----	.562	.5625
				5/64	.078	.0781					37/64	.578	.5781
			3/32	-----	.094	.0938				19/32	------	.594	.5938
				7/64	.109	.1094					39/64	.609	.6094
	1/8	-----	-----	-----	.125	.1250		5/8	-----	-----	-----	.625	.6250
				9/64	.141	.1406					41/64	.641	.6406
			5/32	-----	.156	.1562				21/32	------	.656	.6562
				11/64	.172	.1719					43/64	.672	.6719
		3/16	-----	-----	.188	.1875			11/16	-----	-----	.688	.6875
				13/64	.203	.2031					45/64	.703	.7031
			7/32	------	.219	.2188				23/32	------	.719	.7188
				15/64	.234	.2344					47/64	.734	.7344
1/4	-----	-----	-----	-----	.250	.2500	3/4	-----	-----	-----	-----	.750	.7500
				17/64	.266	.2656					49/64	.766	.7656
			9/32	------	.281	.2812				25/32	------	.781	.7812
				19/64	.297	.2969					51/64	.797	.7969
		5/16	-----	-----	.312	.3125			13/16	-----	-----	.812	.8125
				21/64	.328	.3281					53/64	.828	.8281
			11/32	------	.344	.3438				27/32	------	.844	.8438
				23/64	.359	.3594					55/64	.859	.8594
	3/8	-----	-----	-----	.375	.3750		7/8	-----	-----	-----	.875	.8750
				25/64	.391	.3906					57/64	.891	.8906
			13/32	------	.406	.4062				29/32	------	.906	.9062
				27/64	.422	.4219					59/64	.922	.9219
		7/16	-----	-----	.438	.4375			15/16	-----	-----	.938	.9375
				29/64	.453	.4531					61/64	.953	.9531
			15/32	------	.469	.4688				31/32	------	.969	.9688
				31/64	.484	.4844					63/64	.984	.9844
					.500	.5000						1.000	1.0000

FIIG Change List

FIIG Change List, Effective May 7, 2010

This change replaced with ISAC or and/or coding.